NORTHROP NEWS

VOLUME XVII

Northrop News

NORTHROP DIVISION

Issued Every Two Weeks at Northrop Field, Hawthorne, Calif. Wednesday, October 8, 1958

Northrop, Inc., Earnings Reported for 1957-1958

Beverly Hills, California — arnings of Northrop Aircraft, ic., for the fiscal year ended ily 31, 1958, rose 23 per cent er the preceding year, Whitley . Collins, president, disclosed day.

Net income amounted to $6,-96,285, equal to $4.29 a share the 1,583,173 shares of stock utstanding on July 31 last. This ompares with $5,522,595, or 3.62 a share on the 1,525,619 hares outstanding a year earlier.

Sales for fiscal 1958 amounted $256,353,108, down about 9 er cent from the $281,260,670 olume in fiscal 1957. The in-rease in earnings was achieved, spite of the reduction in sales, hrough continued application of n aggressive policy of cost con-ols and improved operating practices, Mr. Collins pointed out.

Consolidated sales backlog at the fiscal year end was approximately $242,000,000, compared with $216,000,000 a year earlier. Since July 31, 1958, additional contracts totaling $113,000,000 have been negotiated or are in process. Major projects include the Snark SM-62 intercontinental guided missile, the T-38 supersonic jet trainer, the Army's Hawk missile—for which Northrop is principal subcontractor to Raytheon Manufacturing Company—selected airframe subcontracting programs, target drones, and research and development contracts dealing with missiles and space craft. Approximately 60 per cent of the yearend backlog is in electronics, unmanned aircraft, and missiles.

NORTHROP

NEWS BRIEFS

GO AHEAD ON 720—Al Morgan, vice-president, Con-racts, reports that go-ahead has been received on long lead-ime items for additional aft fuselage and outboard wing nits on the new Boeing 720 Jet Stratoliner.

QUALITY ASSURANCE—A quality assurance program on oper-tional Snarks is in the process of being presented to the Air Force, has been announced by Bob Catlin, manager, Quality Control. This is designed to assure the AF that the Snark is 100-per cent nctional and will be ready on instant demand for launch and tar-et-hitting flight," stated Mr. Catlin. "Quality Assurance has com-lete scope—from design board through raw stock, vendor ratings, ssembly, unit inspection, system inspection and many other phases -22 major steps in all. Culmination of Snark quality assurance ontrol will be pre-launch checkout and countdown, countdown en-ine operation and simulated launch, and a four-hour simulated ight on all missiles. As each missile goes down the line and into mulated flight, malfunctions and part failures are continuously ped as they occur. Any part or any sequence showing failure is ause for corrective action. The Snark is a very durable weapon stem but it is unmanned. Once launched there is never a chance r a fix. Missile reliability is reaching heights of perfection never efore attained in any manufacturing process."

BOARD OF DIRECTORS—Northrop Aircraft, Inc., oard of Directors met Wednesday, 1 October, at Northrop-Hawthorne . . . Division, finance, and major program re-orts were included in the agenda . . . The financial report arried statement of earnings for 1957-1958 fiscal year. (See story, this issue.) This report is being mailed today, Wednesday, 8 October . . . Also decision was made to erminate merger discussions with American Bosch Arma. . . . Don Lewis, treasurer, Nortronics, was appointed to he Northrop Aircraft, Inc., Retirement Board.

SUMMER WORKING CONFERENCE REPORT—Herb Weiss, hief, Weapon Systems Analysis, reports that the second Summer Working Conference at Woods Hole, Massachusetts (see Northrop ews, *4 June), was concluded with numerous significant accom-lishments . . . This seminar, under joint sponsorship of ARDC nd National Academy of Sciences, discussed various aspects of Air orce aims and formulated 14 final volumes of conclusions and ecommendations from the long-range perspective. These reports re slated for wide distribution to ARDC centers and major Air orce commands throughout the country. It is expected that they ill invoke the same interest and credence given last year's SWC suances . . . The majority of Mr. Weiss' seven-week contributions ere in the Weapons and Limited War committees, although he lso participated in the groups devoted to Role of Man in Advanced Weapon Systems and Military Implications of Space Vehicles . . . Velko E. Gasich, director of Weapon Systems Development Engi-eering, and Jim L. Taylor, supervisor of Guided Missile section, Weapon Systems Analysis, who had been invited by the Air Force*

(See NEWS BRIEFS, Page 2)

RADIOPLANE RP-76 TARGET DRONE S BULL'S-EYE HIT FOR NIKE-AJAX

The U.S. Army Air Defense ommand announced last week hat a Nike-Ajax missile scored direct hit in its first firing gainst a Radioplane-developed arget missile. The hit was made y Army missilemen at Red Can-on Range, New Mexico, minutes fter the target was launched.

The high performance missile arget, designated the RP-76, was esigned and produced by Radio-lane.

Nike-Ajax made the kill at 30,-00 feet altitude while the target was flying at a speed of Mach 0.9.

EDUCATION AID BROCHURE OUT

A Corporate brochure outlining the basic concepts and workings of the aid-to-higher-education Matching Contributions Program (see *Northrop News*, March 26) has been issued.

Copies of this question-and-answer brochure may be obtained through the office of Industrial Training Administration.

General Manager Nolan Tells Most Important Job

QUALITY, LOW-COST PRODUCTS FOR THE MILITARY

Vice-President R. R. "Dick" Nolan has been general manager of the Northrop Division for three months.

His industry outlook, his Division objectives and plans are of first-line importance to all Norcrafters.

To be effective, Norcrafters must take time out to know what these programs and objectives are.

What is the job now? The next job? What are the plans for this year, for 1959? Can we help? With these questions and many more, Northrop News Editor Charles Bradford called on Vice-President and General Manager Dick Nolan last week.

Editor: "Last year, the Northrop Division made a fine showing in profits, schedules, cost reductions, and developing the T-38. How about next year?"

Dick Nolan: "The year 1958-1959 promises to be everything the past year was. We should make a good profit . . . Northrop Division management and supervision look at schedules with one thought in mind—to beat them—and we do . . . Cost reduction. I could talk for an hour on cost reduction. Our performance on the Snark and subcontracts has been outstanding. We are reporting underruns all along the line . . . New prime developments under way are classified but don't worry — they are space age.

"I want to say to everyone that the good year just passed was the result of sound planning and effective performance. We are even more effective now. It makes sense that 1958-1959 will be equally as good.

"But we have problems. Right now we have a declining work-load. We need more business and I don't mind saying so. We need more subcontracts. Our employment curve is down. This has to be changed. That curve must go up.

"If we have more problems, it must also be said that we have more help in the solution of these problems.

"The Corporate Office—the good work of Mr. Collins, Mr. Jones and Mr. Miller and the new Corporate organization—is lending us valuable assistance in pursuit of our sales plans. And to take full advantage, John Alison is increasing our efforts and widening our entire approach. Our Washington and Dayton Offices are being coordinated into our objectives and are coming strong into this Customer Relations picture.

"We are bidding on North American's two big team projects—the B-70 and the F-108. Our position here is excellent again as a result of management and supervisory team efficiency.

"We are also bidding on new major primes. They are classified.

"I want everyone to know this—. Management and supervisory team efficiency has brought the Snark into operational status with each order well below contract value. The same is true with our Boeing and McDonnell subcontracts.

"The main point of this is that the Northrop Division has demonstrated a management capability that must yield our share of new business. It goes without saying that we are applying this capability to the T-38 at the outset.

"To sum up, this year will be as good as last, depending on continued efficiency."

Editor: "With our position and our goal established, would you give us your evaluation of the aircraft industry today?"

Dick Nolan: "It must be taken into account that there are two key elements to the industry picture today—manned and unmanned aircraft. Manned aircraft production is going down. And paradoxically, unmanned aircraft programs are fewer. Fewer and fewer weapon systems are being bought. This is an industry dilemma.

"But the programs, though fewer, are infinitely larger, more widely spread.

"The change is not only from manned to unmanned aircraft . . . but from terrestial to space.

"There will be more manhours expended in the aircraft industry in the next five years than the past five years. But, there will be less hardware in the inventories to show for it.

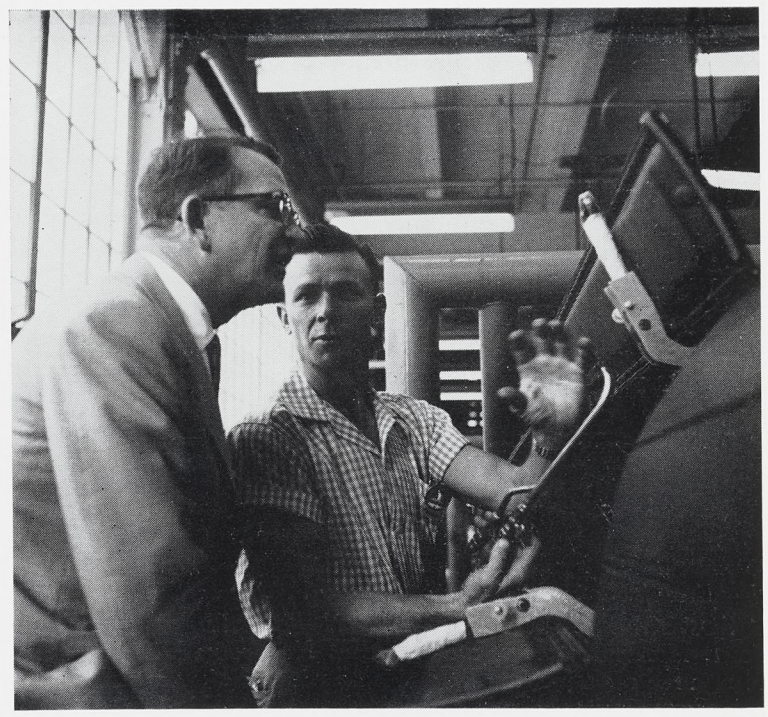
"These additional manhours will go into development, and again—they will be spread much more widely than in the past.

"The demands we make on our new aircraft call for just about the sum total of man's knowledge. All techniques, crafts, and sciences—new and old—will play a part."

Editor: "With a future full of opportunity, what then is our most important job—right now?"

Dick Nolan: "Northrop Division's most important job today, and from here on out, is to produce quality solutions to military problems at the most efficient cost possible to achieve and with

(See DICK NOLAN INTERVIEW, Page 2)



"BEST IN THE WORLD—" Northrop Division Vice-President and General Manager Dick Nolan pays high compliment to American workmen in Northrop News interview. Here he compares ideas with assembly line Norcrafter Lee lake on a paint gun manufacturing aid. The paint gun upped production, netted $1000 through Suggestion Award. In accompanying Northrop News interview, Mr. Nolan spotlights Northrop Division's opportunities, points way to better communications. He states emphatically, "Our most important job—quality, low-cost solutions for the U.S. military."

Northrop News Editorial

On Proposition 17

The defeat of Proposition 17 is important to every Californian.

The *Northrop News* does not presume to be political advisor to its readers. Our readers are people who can make up their own minds. However, to speak out about Proposition 17 is not in the category of advice—but duty.

To sum up Proposition 17, the state sales tax would be cut from 3 per cent to 2. State income tax rates would be changed from the present range of from 1 per cent to 6 per cent to a new range of from ½ per cent to 46 per cent.

Backers of the measure have said that it would reduce state taxes, particularly for the average wage earner. Would it? No. It is estimated that Proposition 17, if passed, would cost the state close to $200,000,000 in tax revenues, with schools and social programs suffering first.

Already new state taxes to replace revenue lost if Proposition 17 succeeds are being studied. These include a sales tax on food, a direct tax on property in addition to property taxes now levied by cities and counties, a service tax on oil which would discourage production, a sales tax on electricity, gas and telephone service, a gross receipts tax on business transactions, an excise tax on cigarettes, transportation, movie admissions, and the like.

These are not "soak the rich" measures. They will hit everybody in the pocketbook.

The Democratic and Republican candidates for governor are opposed to Proposition 17. State Controller Robert C. Kirkwood and Treasurer A. Ronald Button have criticized Proposition 17 as unsound. James Musatti, general manager of the California State Chamber of Commerce, has called the initiative "reckless and ruinous." The California Taxpayers Association has labeled Proposition 17 "a red ink move."

The roster of responsible people opposed to Proposition 17 reads like a "Who's Who": Governor Knight; Paul Ziffren, chairman, Democratic State Central Committee; Richard Richards, state senator; Clair Engel, candidate for U. S. senator. Most state officials and candidates for office are against Proposition 17. The Association of Commerce and Industry, League of American Women Voters, the National Council of Jewish Women, the California School Board Association, the Affiliated Teachers of Los Angeles, Los Angeles Chamber of Commerce, and the Associated General Contractors are all solidly against it. There are hundreds more.

We are confident that if this measure is thoroughly understood it will be defeated—as it should be.

The *News* urges a NO vote on Proposition 17. If it is enacted into law, it will hurt us all.

NEWS BRIEFS

(Continued from Page 1)

to present briefings (see News Briefs, 27 August), contributed to the Aircraft, Guided Missiles and Space Vehicles group.

SUBCONTRACT COSTS DOWN—Bob Lloyd, vice-president, Manufacturing, advises that Northrop Division performance on subcontract projects with Boeing and McDonnell has consistently resulted in lowering of indicated final costs. "Our efficient performance on the Boeing and McDonnell subcontract work has repeatedly proved our ability to produce quality low-cost products," Mr. Lloyd stated. "The Boeing and McDonnell subcontract records have proved our ability to produce on schedule and to constantly improve our efficiency. Norcrafters who are a part of this program are to be complimented for their fine support."

RECRUITMENT—The Northrop Division, along with Nortronics, Radioplane, and Northrop International, have launched new Corporate-wide system for personnel recruitment. This system is being administered through the interdivisional Industrial Relations Committee, John B. Clark, chairman, director, Industrial Relations, Northrop Division. Operations for this new Corporate recruitment are being handled by a subcommittee made up of personnel representatives from all Divisions, headed by Dave Stadler, chief, Northrop Personnel Administration . . . The new Corporate-wide recruitment plan stems from a pilot run conducted during 1957-1958. An eight-week training program is now under way for new recruiters . . . Objectives of this new plan are maximum effectiveness for recruiting dollars spent, nation-wide relations with top talent in aeronautical and science fields, and more efficient relations with placement bureaus of colleges and technical schools . . . "Upcoming highly advanced space projects make it mandatory that Northrop search continuously for very best space and aeronautical brains in the nation," stated Mr. Gore. "This new recruitment plan will certainly leave no stone unturned in attaining this objective."

Dick Nolan Interview

(Continued from Page 1)

shorter—much shorter—flow time. Flow time between concept and operations. It is one thing to design a fine weapon system; but if it takes 10 years to build it, it will suffer from obsolescence and have to give way before a better system. End result is that the nation remains in a state of half-finished preparedness.

"One of our big objectives, and one which we have achieved in many areas, is the ability to cut flow time.

"Some instances—. Flow time will be cut by precept rather than by using the old trial-and-error method. Our test ability must be second to none. Environmental facilities, windtunnel studies, manufacturing R&D. Processes. The day is past when a weapon system is designed and the ability to build it comes later. Manufacturing has to keep up . . . keep ahead. Manufacturing people must be waiting for the engineer. It can't be the other way around."

Editor: "What is our ideal product. Our ideal line of goods, so to speak?"

Dick Nolan: "I am an old factory man. (Dick Nolan started in aircraft in 1929.) The T-38 and the N-156F are ideally suited to our facilities. With our type of management controls, prime contracts of this kind will really pay off. Pay off in many ways — in profits, job security, in sense of satisfaction and in world-wide recognition.

"In addition to the T-38, we are well into the space age. These projects are exciting. I would like the Northrop Division to put the first vehicle on Mars. I want to emphasize again—our opportunities are as good as any in the world."

Editor: "Dick, people at Northrop like this Company and they like their jobs and they like their management. I have been asked this next question many times. How can we help?"

Dick Nolan: "First off, I want to say that the American workman is the finest in the world. He will do a good job always. He builds better quality faster, with intelligence and resourcefulness.

"He needs a few things to work with, however, besides his tools. And this is where the help is needed—from the leadman and supervisory levels.

"The men on the line and at the drawing boards need most of all clear comprehensive knowledge of management goals and objectives and need support—the kind of support where supervision and management, all the way from leadman to general manager, have the will to realize the goal.

"Therefore, in the ideal situation, people are helping most when communications are so perfect that each person clearly understands why—why everything. This is a rare thing, but it is not hard to come by. Actually it is easily accomplished.

"Here is how—. Leadmen, assistant foremen, foremen, general supervisors—all the way to this office—should make it their duty to find out the answers. The leadman asks his assistant foreman. The assistant foreman asks his foreman and on it goes. It's a chain reaction.

"And this goes both ways—up and down. Finding out why and giving the reasons are as much a part of the job as bucking rivets or drawing a clean line.

"In this process of knowing the job, we must have constructive attitudes. When we know—and this is highly important—we must assume the responsibility. And in assuming the responsibility, we become managers—effective managers.

"The days of the Northrop Division being merely competitive are gone. Now we make competition.

ATC Men Engage In Name Contest For T-38 Trainer

A "name the plane" contest designed to select a name for the new USAF-Northrop T-38, supersonic basic trainer aircraft, is being conducted within the Air Training Command. All personnel assigned to ATC units are eligible to participate.

Sponsored jointly by the Air Training Command and Northrop Aircraft, the month-long contest will close October 15. Grand prize will be a one-week all-expense-paid vacation to either Bermuda, Hawaii, Cuba, Mexico City, or any vacation spot within the United States—or a $1000 U.S. Savings Bond.

Judges for the contest are Major Carl A. Brandt, vice-commander, Air Training Command; Brig. General Thomas E. Moore, chief of staff, Air Training Command; Dick Nolan, vice-president and general manager, Northrop Division; John R. Alison, vice-president, Customer Relations, Northrop Division; and Harrington Drake, western manager of the Reuben H. Donnelly Corporation.

BILL WILLIS WINS HILLMAN MINX

That fire-engine red Hillman Minx in the Yukon Building parking lot is there by courtesy of Thrifty Drug Stores.

Nine-year Norcrafter Bill Willis, Data Processing, was a top winner in the drug chain's recent sweepstakes.

A first-time winner in any contest, Bill had so little faith in his chances that he purchased a 1958 Ford station wagon just a few weeks before the drawing. In fact, Mrs. Willis had raised her eyebrows at him for taking time to write his name and address on a sales slip in order to enter the contest.

But now the Hillman Minx sedan is Bill's to have and Mrs. Willis' to drive.

KICKOFF LUNCHEON—Highlighting the luncheon sendoff for National Employ the Physically Handicapped Week, staged by the Los Angeles Coordinating Council, was a commendation for a Northrop Conservation Digest editorial. From left: Justin Johnson, Hughes Aircraft, chairman of both the President's and Governor Knight's NEPH Committees; Gerald Bradley, Garrett Corporation, chairman, L.A. Coordinating Council; Norcrafters Ralph Hopkins, editor, Conservation Digest; Ray Wenger, general coordinator, conservation program; John B. Clark, Industrial Relations director. Both Bradley and Clark are members of President's and Governor's NEPH Committees.

N-D Conservation Digest Commended by Air Force

Northrop's limited circulation publication, Conservation Digest, has been commended recently by both the Air Force and the Los Angeles Coordinating Council.

A letter from Lt. Colonel P. C. Palmer, chief, Production Division, Directorate of Procurement and Production of the Ogden Air Materiel Area, voiced commendation and appreciation of the Northrop conservation program and stated, in part: "Numerous articles of Northrop origin have helped the Air Force and its contractors in areas which have brought about savings in critical materials, time, money and manpower. These savings, which have been passed on through the Northrop Conservation Digest, have placed emphasis on, and were instrumental in bringing about, the true meaning of our slogan "More Air Force Per Dollar."

The Digest was commended by the Coordinating Council at a recent luncheon at Los Angeles' Biltmore Hotel in observance of National Employ the Physically Handicapped Week, in appreciation of an editorial published in the Digest regarding Northrop's long-standing program of hiring the "ability, not the disability."

Northrop News

Vol. 17 No. 1

Northrop Field, Hawthorne, Calif.

A NORTHROP AIRCRAFT INC. PUBLICATION

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PUBLIC RELATIONS
NORTHROP DIVISION

CHARLES BARR, Director

CHARLES BRADFORD, Editor

Permission to republish material with credit to the Northrop News will be granted. News office phones — 2456, 2457. Outside lines—OR 8-9111, OS 5-4611.

BBSF Classified Ads

BBSF classified ad service is provided free of charge to all Norcrafters.

Items advertised in "For Sale" and "For Sale or Trade" categories are limited to a maximum of $50. Price must be stated.

Box numbers will be provided for Norcrafters who do not have home phones or who do not wish calls. Replies to box numbers are to be in writing and sent to the News Office.

Ads for agencies, commercial enterprises and private businesses are not accepted.

Deadline is noon Monday, nine days before publication.

FOR SALE

SEWING EQUIPMENT, pinking shears, Cal-tep, just sharpened, $2; zipper foot, universal type, right & left positions, $1. Box 105. A

CAR PARTS, 1936-1956 Plymouth-Dodge 6s; distributor, Mallory dual-point, $10; headers, Fenton dual-exhaust, $5. FR 9-9616. A

BUGGY, Welsh, w/pad, cost $40, $15. OX 3-0301. A

WASHER, 1952 Kenmore automatic, $35. GR 6-1581. A

TOYS, doll buggy, $4; doll hi chair, 30", $2; doll bed w/bedding, $2; doll bathinet, $2; cash register w/money, $2; car, remote-controlled, $3. LO 6-1546. A

CRASH HELMETS, McHall; competition-type, $22.50; street-type, $12.50. FR 6-0670. A

ARCHERY EQUIPMENT, bow, 50-lb bear-type; quivers, 2; wooden arrows, 26", 18; metal arrows, 12; $30. OR 2-3082. A

RANGE, Kenmore 36", gas, $20. FR 8-1679. A

GYM MEMBERSHIP, Silhouette 6-mo, $18. OR 2-8426. A

IRONER, Kenmore Deluxe, $50. OS 6-3726. A

FISHING POLE, w/250-yd reel, $10. FR 8-5001. A

LITE FIXTURES, fluorescent, $6 ea. OS 5-7924. A

RANGE, Frigidaire electric, 2 ovens, timer, 8 yr old, $50. DA 6-8992. A

TRUMPET, beginner's, $45. DA 4-2966. A

RUG, braided, 12'x15' reversible, $35. FR 5-8846. A

TODDLER EQUIPMENT, child's toilet seat, blue plastic, adjustable, hooks on adult commode, $2. Box 104. A

DOG, toy Doberman pinscher, 1-yr-old, shots, $30. EX 8-4032. A

HOUSEHOLD FURNISHINGS, bed, double-size, innerspring mattress, box spring, cost $89.50, $30; gossip bench, blonde, green upholstery, $7.50. OS 9-2007. A

HOUSEHOLD FURNISHINGS, drape, modern, 4-panel, $5; drape, early American, 6-panel, $7.50; storage cabinet, $10; pictures, 3, $5; bookcase, $10. DA 4-6521. A

SOFA, modern, king-size, red, $45. OS 6-3696. A

DOG, blue tick hound, 10-mo-old, male, shots, $30. OS 5-1651. A

REFRIGERATOR, 6.6 cu ft, $45. DA 9-1846. A

FOR SALE

VIOLIN, ¾-size, $15. GA 3-8533. A

SHOTGUN, Winchester 24 12-gage, 30" double barrel, w/case, $50. Box 101. A

FURNITURE, buffet, maple, $25; bed, maple, single-size, $10; bed frame w/casters, metal, $5. AX 4-0727. A

KITTENS, Manx, pet- & breeder-types, $10 & $15. OS 6-7723. A

BED, double-size, innerspring mattress, box spring, frame, $25. DA 4-4750. A

RANGE, O'Keefe & Merritt gas, $40. GL 4-2451. A

CLOTHESLINE POLES, galvanized, w/lines, $5. GR 7-1539. A

VIOLIN, full-size, bow, $25. DA 9-7698.

KITTENS, Siamese, 6-wk-old, $10. OR 2-3801. A

GUNS, Winchester 03 .22 automatic; Stevens 28-gage single-shot, hammerless w/pad; $20 ea. FA 8-5365. A

SHAVER, Sunbeam electric, $10. Box 103.

WANTED TO BUY

DRAFTING EQUIPMENT, beveled edge, French curve, 30°/60° triangle. FR 9-9616. B

SKI BOOTS, size 2. FR 5-4763. B

FOR TRADE

MOVIE CAMERA, 16-mm, trade for deer rifle. Box 102. C

FREE (to be given away)

KITTENS, long-hair, black & grey; calico, black. PL 4-7737. D

RENTALS WANTED

GARAGE, for boat, $5 mo. OR 2-8426. F

PERSONALS

THANK YOU for the many kind expressions of sympathy as well as the floral tribute during the recent loss of my mother. RUBY VAWTER & FAMILY. L

THANK YOU to my many friends and coworkers for the cards, flowers & gifts sent me during my recent hospital stay. KATHY CARLSON. L

FOR SALE OR TRADE

TRANSMITTER, New Age Commander c/w, $10 or trade for Ohlsson 29 Glo engine. DA 9-4286. M

RIDES WANTED

7:00 a.m. — 3:45 p.m.

(Zone 7)

AVALON & CARSON, Torrance. C. B. HESS (5165-49350, ext. 768). TE 5-1596.

(Zone 8)

CRENSHAW & HWY 101, Torrance. (Consider car pool.) EDITH DARRAGH (5355-15838, ext. 621). DA 6-8992. 2-8

(Zone 10)

ARDMORE & 1st ST., Manhattan Beach. JANE SHILLING (7440-27141, ext. 1240).

8:00 a.m. — 4:45 p.m.

(Zone 1)

SANTA MONICA BLVD. & WESTERN, Hollywood. (Consider car pool.) HAROLD GREER (3242-53657, ext. 2775). HO 4-6094. 5-1

(Zone 3)

CENTURY & NORMANDIE, Los Angeles. ANDY MOLLEUR (3120-56288, ext. 2535). PL 4-4200. 5-3

(Zone 5)

CARSON & WOODRUFF, Lakewood. (Established car pool.) J. O. BARRETT (3322-29489, ext. 2024). HA 9-5140. 5-5

(Zone 7)

VERMONT & 228th ST., Torrance. LAURA WILLIAMS (3144-12572, ext. 1848). FA 8-4938. 5-7

(Zone 9)

SEPULVEDA & TORRANCE BLVD., Redondo Beach. KAY SNYDER (8831-51115, ext. 1458). FR 9-5613. 5-9

(Zone 13)

TAMPA & VENTURA, Tarzana. (Consider car pool.) L. R. HOOVER (3610-30142, ext. 2161). DI 3-0927. 5-13

SHERMAN WAY & WINNETKA, Canoga Park. (Established car pool.) H. J. BLACY, Jr. (3160-30569, ext. 1818). DI 7-0329.

RIDES WANTED

8:00 a.m. — 4:45 p.m.

(Zone 13)

VENTURA & SEPULVEDA, Sherman Oaks. R. E. WESEL (3240-45321, ext. 1258). ST 8-3104. 5-13

(Zone 14)

LA CIENEGA & VENICE BLVD., Los Angeles. (Desire car pool.) F. F. FERGUSON (3242-45076, ext. 2775). WE 5-3057.

RIDES OFFERED

7:00 a.m. — 3:45 p.m.

(Zone 8)

CRENSHAW & HWY 101, Torrance. (Consider car pool.) EDITH DARRAGH (5355-15838, ext. 621). DA 6-8992. 12-8

7:30 a.m. — 4:15 p.m.

(Zone 12)

CENTINELA & VENICE BLVD., Los Angeles. JOAN CLARK (8914-14456, ext. 1296). EX 7-4213. 13-12

8:00 a.m. — 4:45 p.m.

(Zone 1)

SANTA MONICA BLVD. & WESTERN, Hollywood. (Consider car pool.) HAROLD GREER (3242-53657, ext. 2775). HO 4-6094. 15-1

BEVERLY & WILTON, Los Angeles. (Via Wilton, Arlington, Vernon, 8th Ave., Crenshaw.) RALPH LANDERS (8820-24187, ext. 417). HO 4-7747. 15-1

(Zone 5)

CARSON & WOODRUFF, Lakewood. (Established car pool.) J. O. BARRETT 3322-29489, ext. 2024). HA 9-5140. 15-5

(Zone 8)

CRENSHAW & 171st ST., Torrance. LOUISE HUDSON (3533-56001, ext. 1602). DA 9-7698. 15-8

CAGERS AIM TO SINK 'EM IN SEASON WARMUP TOURNAMENT

Northrop's NRC hoopsters will be aiming high at the Leuzinger Girl's Gym come Saturday, October 18.

Slated as the first of a two-Saturday preseason tourney, the competition is of the elimination-consolation type.

To enter the tourney, each team manager need submit only his name and the team's name to Don Greco, Personnel Activities, no later than Wedneseday, October 15. Players may compete on one team only.

With this event marking the imminent return of the cage season, John Mihelich, NRC basketball commissioner, reports that the start of day league practice rounds is set for Monday, October 27. These warmups will continue on each Monday and Thursday until the season opens.

Details on night league practice will be announced later.

John also reminds team managers that the deadline for submitting rosters in both day and night leagues is November 7.

HAMMING IT UP—Dit-da-ditting at the new NRC Radio Club facilities is Andy Dolak, day commissioner. Displayed on the wall behind him are QSL cards — cards exchanged internationally by ham operators who make contact with each other. In the foreground, Phil Kramer examines the QSL card NRC's station uses to publicize Snark around the world.

W6VPZ Calling . . . W6VPZ . . . Hams Make Circuit with Snark

There's a special elation known only to a ham . . . the moment when his probing signal is answered by another ham.

To acknowledge the subsequent conversation — radio-wise — ham operators exchange QSL cards. Each card provides space for call letters, frequency, time and date of contact, and the more technical data pertaining to equipment.

The Northrop Recreation Club has a ham setup and is FCC-licensed as a radio station. Both the day and night commissioners, Andy Dolak and Merwin McGrew, and the other members of the Radio Club, spend much of their free time at club headquarters, transmitting the NRC call letters—W6VPZ.

And, when contact is made, a Snark QSL card is sent out. (See photo above.) The red-and-blue card proudly bears a reproduction of Northrop's big bird in flight. Above it appears the legend "USAF SM-62 Snark Missile" so there will be no mistaking its identity.

When the transceivers are humming in the building behind the NRC Clubhouse, you can be sure that at least one word is . . ./— . /. —/. — ./— . — (Snark).

RIDES OFFERED

8:00 a.m. — 4:45 p.m.

(Zone 13)

TAMPA & VENTURA, Tarzana. (Consider car pool.) L. R. HOOVER (3610-30142, ext. 2161). DI 3-0927. 15-13

SHERMAN WAY & WINNETKA, Canoga Park. (Established car pool.) H. J. BLACY, Jr. (3160-30569, ext. 1818). DI 7-0329.

(Zone 14)

LA CIENEGA & VENICE BLVD., Los Angeles. (Desire car pool.) F. F. FERGUSON (3242-45076, ext. 2775). WE 5-3057.

deadline...deadline

foresomes

october 15 is entry deadline for san clemente golf tourney

NRC Campers Set Bivouacs—Lion Canyon, Cachuma

Two campouts have been scheduled by the NRC Camping Club for the latter part of this month.

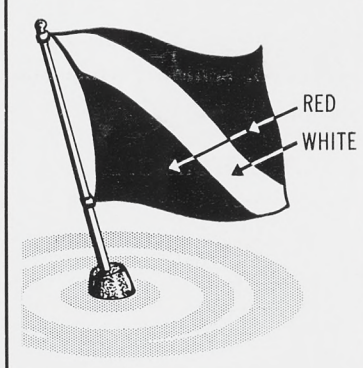
The first—October 18 and 19—will bivouac at Lake Cachuma. Swimming, boating, fishing and hiking are available. Points of interest include the Santa Ynez Mission and the Danish village of Solvang.

Lion Canyon, above Lake Matilija, is the site of the campout slated for the following weekend, October 25 and 26. A special pack trip is being planned in conjunction with this outing.

Reservations for either campout may be made by contacting Personnel Activities.

SKINDIVING FLAG

This red-and-white bunting may be hoisted on a makeshift float . . . or a boat. In either



case, it is a sure-fire signal that a skin diver is in the general area.

If a boating course near the flag is unavoidable, a greatly reduced speed and a sharp lookout should be maintained in order to avoid passing through air bubbles or colliding with a surfacing diver.

CAR MAG SPOTS TULLY "GALLEON"

Mike Tully's "Lime Gold Galleon" has been featured in the November issue of *Custom Cars* magazine with a double-page spread bearing that name.

Twenty-year-old Mike, an ex-Norcrafter from Internal Transportation, is the son of Marie Tully, Personnel Activities.

His palatial "land-yacht" started out as a 1954 Chevrolet Bel Air coupe. The face-lifting allied components borrowed from various Detroit buggies — 1956 Buick, 1955 and 1957 Chevrolet, and 1955 De Soto.

Internal modifications include a 1955 Chevy engine with 1/8-inch increased bore, a Corvette cam, 3-pot manifold and solid lifters, and a 1949 Olds gear box.

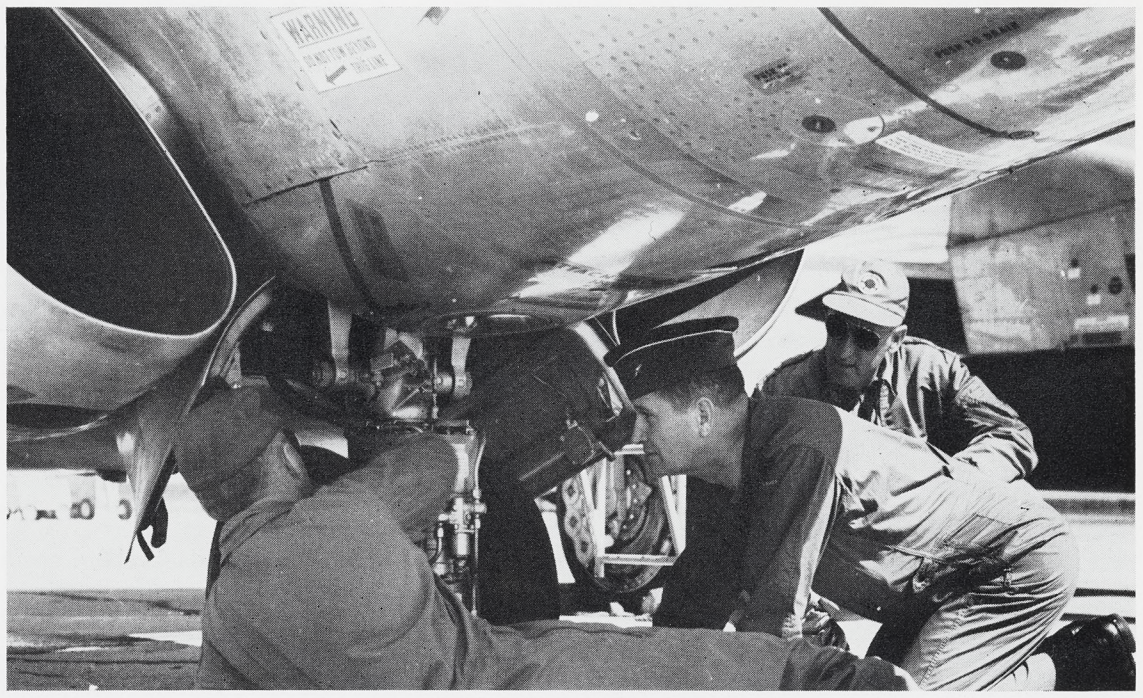
Mike soloed on all the engine work and wiring—and most of the body customizing.

Safety Store Customers

SAFETY GLASSES—George Gore, Company counsel, is fitted for prescription safety glasses in new safety store, by J. S. Cushman, optical service technician. Dr. W. A. Blum and Bob Lloyd stand by for next fitting. Safety prescription glasses are important element of store service.

SAFETY STORE OPENS—Bob Lloyd, vice-president, Manufacturing, gets fitting for pair of safety shoes by Ed Simmons, store attendant. Safety store has complete line of safety goods, both personal and company-issued. Location is Plant One just outside east clockhouse. All Norcrafters and Nortronics folk are welcome to browse.

Northrop News Pictorial



GOVERNOR FOSS—Former Commanding Officer of the 175th Fighter Interceptor Squadron before he entered government, Governor Joe Foss of South Dakota returns to his F-89 Scorpion-equipped squadron often to keep abreast. Captain Berger and Colonel Corning accompany Brigadier General Foss, Air National Guard, on his tour of Joe Foss Field. Governor Foss was a Marine ace in World War II, a much decorated hero. He was awarded the Congressional Medal of Honor for the defense of Henderson Field in the critical battle of Guadalcanal.

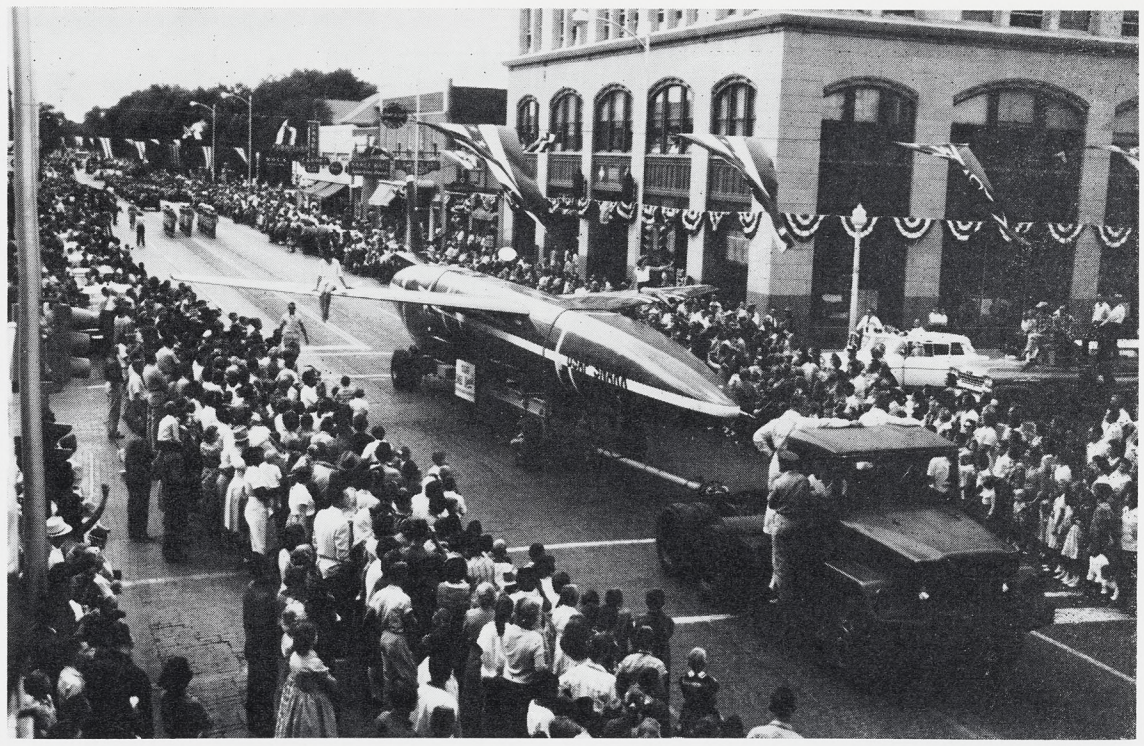
LOAN EXEC—Hal Chanslor, Personnel Activities, right, is on loan to Centinela Valley Community Chest campaign, commerce and industry division. Pointing out the number of volunteers needed in their areas are, from left, Mrs. E. A. Althouser, Lawndale residential chairman; Lowell Brubaker, Centinela Valley residential chairman; and Mrs. R. J. McAndrews, Hawthorne residential chairman.

JOB CHARTS—Manufacturing and Planning cooperate in program to measure departmental efficiency as part of cost reduction program. Posted charts tell length of job and time allotted. Shop personnel monitor the charts to evaluate their own progress and efficiency. Standing at left, George T. Blair, assistant superintendent, Missile Manufacturing, discusses progress with Rex Bohling, supervisor, and his assistant Tom Tripp, Installation Planning. Man working in missile is Gaston Jackson, Installation and Final Assembly. Charts pay off in efficiency.

Youngest To Amass 15 Years' Service

VIE FOR "YOUNGEST" HONOR—At the presentation of his 15-year pin, Everett McClellan, right, asked if he were not the youngest Norcrafter with 15 years of service. He was born on December 5, 1925, and came to Northrop as a 17-year-old. His claim was challenged, however, by Harry Lantz, whose birth date of December 7, 1925, makes him just two days younger. Thus, both of these men have been with Northrop for all of their adult years. December 1943 seniority dates are a week apart. Everett is with Plant One Assembly Stores and Harry is in Engineering Administration.

SNARK AT AMARILLO—During the opening day of the 1958 Tri-state Fair, AF Snark with a Texas beauty on each wing headlines the parade. The Snark wings extended over the crowd and young lady on the right had to lift her feet. Northrop Customer Service training personnel, AF 3320th Technical Training Group participated.



Snark Missile and 3320th Capture Vast Crowd at Amarillo Tri-state Fair

The Snark, one thousand marching officers and men of the 3320th Technical Group, WAF personnel, the 3320th band, and foreign students paraded before thousands of Panhandle folk during the opening day of the great 1958 Tri-state Fair at Amarillo.

An account by Don Sturgis of the *Amarillo Air Force Base Jet Journal* captures the color of the event. Don writes as follows:

"Under the supervision of Major Morris A. Stanley, assistant Wing Operations officer, and Captain John York, 1958 Base Tri-state Fair officer, the Snark missile left the base arriving at its destination some five hours later.

" 'We measured the entire route of the missile with a tape measure prior to moving it Sunday,' said Captain York during a *Journal* interview.

" 'At one point on 24th Street the wing tip lights of the missile had to be removed in order to pass through two telephone poles. By doing this we gained an inch on each side of the Snark allowing us to pass,' he said.

"The two officers were assisted in moving and planning the huge job by T/Sgt. Perry Stokes along with 5 men from Northrop Aircraft, builders of the Snark. The Northrop representatives

(See PARADE, Page 2)

NORTHROP

Northrop News

NORTHROP DIVISION

Issued Every Two Weeks at Northrop Field, Hawthorne, Calif. Wednesday, October 22, 1958

NEWS BRIEFS

FLOW TIME CUT—Vice-president Manufacturing Bob Lloyd reveals that significant advancements stemming from Northrop Division's Manufacturing R&D program are rapidly becoming incorporated into Division factory processes and figure prominently in all decisions that affect our work capability . . . "Our new know-how in the area of radiant heat forming of the space metals puts Northrop out in front in many areas," stated Mr. Lloyd. "Northrop Division's radiant heat techniques for forming titanium alloy, stainless steel, and molybdenum are now operational. These materials are high-heat-resistant and are necessary for space designs . . . Furthermore, we are the only plant with the process of forming molybdenum by use of high-impact-rubber methods . . . Also, our new method of radiant brazing structures of stainless steel honeycomb is a fine space-age capability . . . Radiant brazing cuts flow time now counted in production days to hours, plus obtaining an end product of higher quality . . . Our new method of machining dies by machine tools tape-controlled direct from computer-calculated lofting data cuts flow time on 6- to 11-week items down to 3 to 6 days—this with tolerances 7 times finer than before."

PRODUCTION FLIGHTS—Test flights from Cape Canaveral on the Snark SM-62A program are scheduled to be implemented by first assignment of operational missiles for launch. The SAC 556th Snark squadron, Colonel Beck commanding, will fire the missiles with Northrop engineering, technical and service support. "In addition to flight test objectives," stated George Douglas, vice-president, Engineering, "the added program will also be used to verify the quality assurance program (see News Briefs, 8 October) to insure the highest possible degree of perfection in the missile." . . . The Presque Isle Snark base and facilities are proceeding on schedule.

T-38—With rollout beating the schedule, preparation for first flight is also proceeding ahead of schedule . . . Engine test stand runs are proceeding as programmed.

RESULTS—Concrete cost-reduction results, with potential of over $170,000, from the work of the Functional Survey team—Jack Hinchliffe, Grant Macdonnell, Ben Trump—and studies by Administrative Services are this week doubly indicated 1) through streamlining of EFA procedures, and 2) through the reorganization of Division duplicating facilities and equipment . . . "These improvements are part of management's continuing program to make sure that no duplication of efforts adds to our cost," stated General Manager Dick Nolan. "Other similar programs are under study and will be up for decision soon." The EFA—Equipment and Facilities Authorization—a highly important operation that serves as control for asset monies, burden monies, supply contracts and facilities contracts, has been reviewed by top management and streamlining

(See NEWS BRIEFS, Page 2)

Five Jewett Suggestions In 39 Days Pay Him $254

C. R. Jewett, Electrical Maintenance Norcrafter, has just established a record at Northrop for payoff ideas.

He turned in six suggestions over a 39-day period. Five of them paid off, says Cecil Callaway, Suggestion Award supervisor.

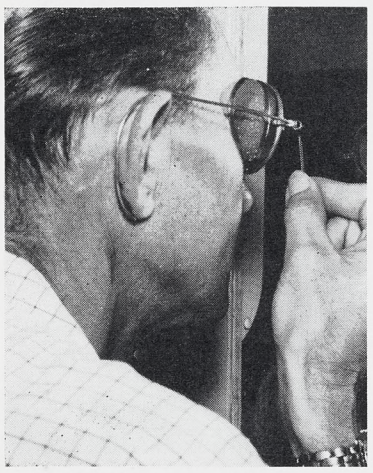
One of C. R.'s jobs is to keep the big Drivmatic producing quality rivet jobs on time. Three of his ideas went to improve this already highly efficient machine. For better tape control by placing a spring on the idler, he got $59. For an air jet on the shaving sequence stop, he got $39. And for rerouting control cables he got another $39.

Next C. R. went to work on the hot dimpler. A suggestion for a microswitch instead of a foot switch earned him $28. And a rope sling system for supporting panels paid off to the tune of $89.

Total—$254.

Just goes to show you—everything hasn't been thought of yet

Wise - - - -



WISE OWL—is John Mohwinkle, Sheet Metal. A #40 drill broke in three pieces. One piece of the drill shattered John's left safety lens. No injury was sustained.

BY THE PRESIDENT OF THE UNITED STATES A PROCLAMATION

" . . . I, Dwight D. Eisenhower, President of the United States of America, do hereby urge the citizens of this Nation to observe Friday, October 24, 1958, as United Nations Day by means of community programs which will demonstrate their faith in the United Nations and contribute to a better understanding of its aims, problems and accomplishments.

I also call upon the officials of the Federal and State Governments and upon local officials to encourage citizen groups and agencies of the press, radio, television, and motion pictures, to engage in appropriate observance of United Nations Day throughout the land in cooperation with the United States Committee for the United Nations . . . "

CRAIG AIRMEN FIRST ATC PILOTS TO TRY WINGS IN SUPERSONIC T-38

Craig Air Force Base, Alabama, will be the first Air Training Command base to receive the new T-38 when it becomes available, according to an announcement made by Air Training Command headquarters in San Antonio, Texas. Evaluation of the aircraft will begin there in 1960.

Due to the rapid advances in speed and altitude capabilities of the Air Force's first-line aircraft, present trainers used in the basic flight training program are no longer able to prepare the student pilot adequately for an operational assignment, ATC said.

As a result, modified combat aircraft are presently being used as trainers. This type of training vehicle is too expensive for continued use. Thus, the Air Force asked for a new basic trainer, combining safety, simplicity and economy, together with combat performance characteristics.

The T-38, they pointed out, was developed in answer to this requirement. Student pilots flying the T-38 will receive training in supersonic flight, high-altitude indoctrination, and high-altitude formation technique.

Instruction in navigation problems brought about by high-altitude flight and supersonic dashes may also be given students in the new trainer, which has a ceiling of over 55,000 feet.

See News Briefs, this issue, for T-38 status report.

Boeing Birds Crack Records —Transcontinental and Ocean

Boeing jets are heaving old elapsed-flying-time records over the side.

Pan American World Airways' first Boeing 707 Jet Stratoliner set a new pace in its maiden transatlantic round-trip, although the flight was primarily for crew familiarization.

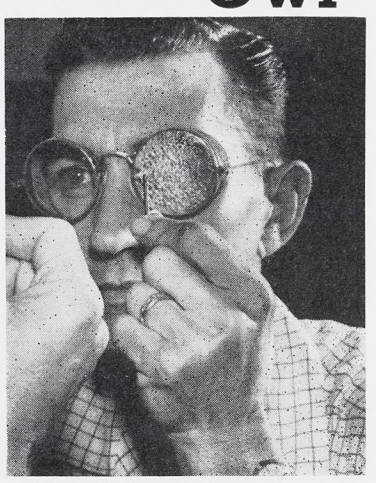
In the leg from Gander, Newfoundland, to Shannon, Ireland, the commercial airline record was shaved by more than an hour. Elapsed flying time for the 707 was 3 hours 47 minutes.

A couple of weeks later, that same 707 hopped from New York to San Francisco in 5 hours and 51 minutes.

Another bird in the Boeing family, a KC-135 carrying Air Force General Curtis LeMay, set an unofficial nonstop record from Tokyo to Washington, D.C. Its mercurial flight over 7100 miles of ocean and continental United States consumed a mere 12 hours and 28 minutes.

Norcrafters can be proud of their role in helping build these high-performance aircraft.

- - - - Owl



SAFETY GLASSES — as issued by the Company safety store saved John's eyesight. Tough Plano lenses withstood the shock. Visit the new safety store.

Northrop News Editorial

On Proposition 18

Proposition 18 which is up for decision on November 4 is a measure of great importance to everyone in California. Your editors think that it is unfortunate indeed that all of us have to wade through so many charges and counter-charges in order to get to the point of what the proposition really means. It has been years since your editors have seen so much of faceless men on billboards and charges that the opposition is plotting to destroy everything from religion to our very way of life.

There is nothing wrong with controversy over issues on the ballot but we progress by educating ourselves as to what legislation means rather than by voting on the basis of emotion. Proposition 18, when we clear away the confusion, really presents quite a simple choice. If you believe that you should be free to join or make payment to a union or not, as you please, then you should vote yes on Proposition 18. If you believe that you should be compelled to join or make payment to a union in order to get or hold a job, you should vote no. There is nothing complicated about that.

Your editors believe that a man should be free to do as he pleases in this respect and that no man or group of men should be able to force him to belong or make payment to any organization against his will in order to earn a living for his family. Many unions do fine jobs for their people but it makes sense that unions will serve their members better if membership is voluntary and if the head men keep their jobs because they serve a free membership well. The Dave Becks and others like him will no longer hold a man's livelihood in their hands to use as they see fit. Certainly the individual cannot lose by keeping himself free as shown in 18 other states which already have laws like Proposition 18.

We believe a YES vote on Proposition 18 is in the interest of the union and the individual alike.

BBSF Classified Ads

BBSF classified ad service is provided free of charge to all Norcrafters.

Items advertised in "For Sale" and "For Sale or Trade" categories are limited to a maximum of $50. Price must be stated.

Box numbers will be provided for Norcrafters who do not have home phones or who do not wish calls. Replies to box numbers are to be in writing and sent to the News Office.

Ads for agencies, commercial enterprises and private businesses are not accepted.

Deadline is noon Monday, nine days before publication.

FOR SALE

CORNER TABLE, blonde, $22. DA 3-5260.

CAR PARTS, 1936-1956 Plymouth-Dodge 6s; distributor, Mallory dual-point, $10; headers, Fenton dual-exhaust, $5. FR 9-9616. A

TV SET, RCA 21", blonde console w/ doors, $50. FR 5-9640. A

FLAGSTONE STRIPS, $5. GR 7-1539. A

ROLLER SKATES, Chicago, boy's size 7½, case, $17.50. FR 5-5335. A

CAR HEATER, Eureka water-type, 3-speed blower control, $12. FR 5-5838. A

RECORD PLAYER, Heathkit, 3-speed, 2 speakers, 8-watt push-pull output, $30. EX 8-5360. A

LUGGAGE TRAILER, 1-wheel-type, new tire w/spare & tube, $30. NE 9-4450. A

SHAVER, Remington 60 Deluxe electric, $15. HO 4-7747. A

PICKUP ARM, Rek-O-Kut Rondine, w/ Pickering diamond cartridge, cost $65, $42.50. OR 4-0762. A

TYPEWRITER, Swiss-made, $50. OR 1-3645. A

BUGGY, folding-type w/pad, $10. FR 2-6776. A

CAT, Siamese, 1-yr-old female, has had 1 successful litter, $10. OR 2-3801. A

DINING ROOM SET, mahogany, table, chairs, $10. DA 4-4750. A

MOVIE PROJECTOR, Revere 80 8-mm, 500-watt, case, $45. DA 9-1053. A

AIR CLEANERS, pr, MG-TD chrome-plated racing-type, $10. FR 2-5577. A

WASHER, Kenmore automatic, $30 inc. delivery. GR 2-2031. A

IRONER, Allied console, $30. OS 6-1471.

CAMERA EQUIPMENT, Kodak Pony 828, case, daylite filter for nite film, $20; flash attachment, $5. FR 9-5088. A

RANGE, Hotpoint electric, 10 yr old, $35. TE 1-2943. A

FURNITURE, sofa w/matching chair, $25; chair, T-cushion-type, $20. PL 8-7138. A

CAR ACCESSORIES, fender skirts, 1949-1950 Plymouth, $5; tachometer head, Stewart-Warner electric, $15. OR 2-7081.

FOR SALE

POWER MOWER, Firestone reel-type, $35. OS 5-1818. A

SHOTGUN, Winchester 12 20-gage pump-type, case, $50. OR 1-4310. A

STOVE, gas, $35. DA 3-3251. A

SHOTGUN SHELLS, 10 boxes, 12-gage, 2¾ Magnum, #4 shot, $3.55 ea. DA 3-0669. A

REFRIGERATOR, Norge, $25. EX 9-7148.

RIFLE, .22 automatic, $25. PL 6-9697. A

VACUUM CLEANER, Hoover, attachments, $39. TO 1-2388. A

GOLF CLUBS, Spaulding, 6 irons, folding cart, bag, $35. FR 5-8778. A

ROCK TUMBLER, 2" barrels, motor, $35. DA 9-5361. A

ELECTRONIC EQUIPMENT, power xformer, 110V & 220V, output—5 kv at 3 amp —center-tapped; chokes; capacitors; $50. Box 204. A

REFRIGERATOR, Frigidaire 8.8 cu ft, $45. OS 5-9054. A

TRAIN EQUIPMENT, Lionel, diesel engine, 6 cars, layout board w/mechanical station, 2 switches, xformer, mechanical milk-loading car, $50. AX 1-9010. A

WASHER, Bendix automatic, $22.50. VE 9-7378. A

TRAILER, 4'x7' box-type, 6-ply tires, $30. OS 6-3448. A

WANTED TO BUY

STEAM ENGINE, Lionel O- or 027-gage, max. $5. Box 203. B

STENOTYPE. OR 1-3645. B

RENTALS WANTED

HOUSE, 3-bdrm, unfurnished, within 2 blocks of ocean, 2-car garage, lease. FR 9-9616. F

PERSONALS

KITTEN WANTED, Siamese, male, free. Box 201. L

Air Medicine is Symposium Topic For Norcrafter

J. Gordon Wells will be one of the main speakers at the Fourth Annual Symposium in Aviation Medicine, today through Friday, at Santa Monica's Miramar Hotel.

In addition to Dr. Wells supervisor of Human Engineering Analysis, speakers have been drawn from other leading West Coast aircraft companies, Airline Pilots Association, Society of Experimental Test Pilots, U.S. Air Force, Civil Aeronautics Administration, and the UCLA School of Medicine.

The conference, which is sponsored by the UCLA School of Medicine and the Department of Continuing Education in Medicine, University Extension, will explore the array of medical problems raised by the age of space exploration, jet transports and private flying.

Top aircraft specialists, physicians and scientists will join in panel discussions of jet transports, flying safety, the problems of small aircraft, and space medicine.

Parade—

(Continued from Page 1)

were Hugh H. Dossett, William L. Shuck, jr., Dale E. Kaeding, Jack D. Swanson, and Norvin H. Schaper. 'Without the able assistance of these gentlemen, we would have been unable to make this moving project successful,' Captain York told the *Journal*.

"The Snark missile was hauled down Polk Street in the parade making a 'beautiful sight to see' — however, when the missile reached the turning point at Polk and Third Streets it was unable to turn with the parade and had to continue north on Polk to 24th Street in order to miss the Third Street underpass which was too small to allow the missile to pass under. On 24th Street the missile was taken east to Grand Avenue then south to the fairgrounds. Upon arrival at the fairgrounds the wings of the missile had to be removed because of the fence surrounding the Tri-state fairgrounds.

"Also during the *Journal* interview with Captain York, he said, 'the junior Sunday school class at the Polk Street Methodist Church was disrupted by the sight of the missile and I doubt if much was learned that day.' The Snark missile was parked right outside of the Sunday school classroom."

MORE "TOWER"

Additional Air Force newspapers—those in the Air Defense Command and Headquarters Pacific Air Force—have advised that they will syndicate the Northrop News Aireporter serial "A Tower in the Plain".

SAC newspapers and those of ATC are already running the story.

Total number of military publications running the serial is now 262.

"A Tower in the Plain" is the story of the Snark as the first intercontinental missile going operational with SAC.

Arrangements for the syndication were made by Alvin Smith, Northrop Division Public Relations.

NEWS BRIEFS

(Continued from Page 1)

is being implemented. Savings here are a potential $48,000 per annum. Flow time of EFA has been cut more than half and operations cut more than half . . . Reproduction—consolidation of service reproduction personnel, equipment and facilities has effected an indicated yearly savings of approximately $122,400. Administrative Reproduction Services, Engineering Reproduction, the reproduction portions of Industrial Training and of Facilities Program Planning have been consolidated into new Organization 8850, under Customer Service, Lee Smith, director . . . No immediate physical consolidation of the various elements is contemplated. Bulletin announcing effectiveness is scheduled out this week.

TORRANCE MOVE TO PLANT THREE—Vice-President Morgan announces that the Torrance to Plant Three Customer Service move is now complete. Customer Service headquarters, Lee H. Smith, director, has also been moved from Plant One to Plant Three. Field Service group, presently in Plant One, is scheduled to move to Plant Three before the first of the year.

NORTAM—Northrop Terminal Attrition Model is additional recently awarded study contract that will furnish Air Force with means to predetermine outcome of interceptor-bomber combat, it has been announced by Vice-president Douglas. From NORTAM information, Air Force can determine optimum tactics and counter-tactics, for engagements combining all types of present-day aircraft—bombers and fighters, both foreign and our own—plus future weapon systems up to any Mach number. Although the NORTAM method has only been applied thus far to manned aircraft and air-breathing missiles, it can also be adapted to evaluate all types of ballistic missiles of any range. Jim L. Taylor, supervisor, Guided Missile section, Weapon Systems Analysis, is scheduled to present a paper on NORTAM before the Operation Research Society of America in St. Louis, 23 and 24 October. Herb Weiss, chief, Weapon Systems Analysis, is vice-president of the society.

N-156F—Welko Gasich, director, Weapon Systems Development Engineering, has just returned from SEATO countries; Ray Gardner, N-156F project engineer, is now in NATO countries—both on engineering and capability indoctrination tours. Both report favorable government reaction at all points of call, and growing interest in the new counterair fighter.

Nolan Interview Read at Florida NRC Veep Party

John B. Clark, director, Industrial Relations, spoke to two groups of Floridian Norcrafters on successive evenings a week ago.

On Friday, October 10, he was featured speaker at the Management Club dinner held at the Trade Winds in Indiantlantic.

Mr. Clark had brought with him an advance copy of the October 8 *Northrop News*. Thus, he was able to present highlights of the editor's interview with Dick Nolan which had been featured in that issue.

He also tendered special commendation to the MC Florida head, Vice-president Tom Griffith, for the organization's success at that facility.

Saturday evening Mr. Clark was guested at the Northrop Recreation Club Inaugural Ball. Over 200 Norcrafters and their wives attended the annual gala at Melbourne's Belcelona Hotel.

Outgoing NRC Missile Test Facility Vice-president Dick Kotowski was presented with a special Northrop Recreation Club plaque ". . . with appreciation and recognition for furthering the leisure time activities of Norcrafters."

As installing officer, Mr. Clark welcomed incoming veep, Woodrow (Woody) Thomas. Woody, a long-time Norcrafter, transferred to Florida from Palmdale in June 1955 and began work for Inspection as a field and service inspector on the Snark. He is presently assigned to the Guidance Laboratory as an inspector supervisor.

BEST WISHES

All Norcrafters and members of the Air Force office extend best wishes and "get well soon" to Colonel D. A. Simcoe, AF Plant resident representative.

Colonel Simcoe is in the San Diego Naval Hospital now convalescing from major surgery.

The Colonel would like to hear from us. If you write—cards and messages can be directed to him at the hospital.

ELISE WILLIAMS ELECTED PREXY OF NURSES WINA

Elise Williams, supervisor, Nursing Service, Northrop Division, has been elected president of the Western Industrial Nurses Association.

Miss Williams, an 18-year Norcrafter, took office during the October 3, 4, and 5 meeting of the organization.

The WINA participates in such western groups as the Western Industrial Medical Association, allied safety groups, and allied hygienist groups.

WINA also participates in the industrial health conferences.

Northrop News

Vol. 17 No. 2

Northrop Field, Hawthorne, Calif.

A NORTHROP AIRCRAFT INC. PUBLICATION

Published every other Wednesday
PUBLIC RELATIONS
NORTHROP DIVISION

CHARLES BARR, Director

CHARLES BRADFORD, Editor

Permission to republish material with credit to the Northrop News will be granted. News office phones — 2456, 2457. Outside lines—OR 8-9111, OS 5-4611.

Now Is the Time for All Designing Women . . . To Fashion Xmas Joy

Norcrafter dolls will be saying *Feliz Natividad* . . . with an assist from the Northrop Recreation Club and the Strategic Air Command.

The annual NRC doll-dressing contest is slated to start today. In seven weeks, SAC will airlift the Christmas message of Norcrafter ladies to Spanish orphans.

By receiving these on January 6, Epiphany—the traditional Spanish Christmas — prospective little mothers will have an opportunity to lavish their attention on the dolls that mean so much to all little girls.

The details of the contest itself are simple.

Beginning today, any lady Norcrafter may obtain at any Personnel Activities office an entry form and a foot-high doll. Ready for the touch of a couturier, the dolls have hair, movable arms and legs, and come complete with display stand.

There are no limitations on the type of costume which may be made—in the past, these have ranged from the traditional dress of other nations to Americana of the then and now.

The categories in which the finished mannikins will be judged are most uniquely dressed and most beautifully. There will be three prizes in each class.

Deadline for dolls is Monday, December 1. But a month passes quickly—particularly at year's end. The investment of time and money will be comparatively slight—the flashing smile of a *muchachita* means much.

AND FURTHERMORE—Discussing the trophies for which members of Toastmasters 2583 are eligible are Secretary Andy Hooton, Publicity Director Jim Murphy, Bill Willis, Ted Kelly, President Oscar Hakala, Sergeant at Arms Emil Lockman, Educational Vice-president Jim Arndt. In foreground is outgoing president, Walt Brown. Hooton had just been adjudged most improved speaker of the past year.

RIDES WANTED

7:00 a.m. — 3:45 p.m.

(Zone 11)
MARIPOSA & SHELDON, El Segundo. (Consider car pool.) BILL DUVAL (5516-45536, ext. 533). EA 2-4306. 2-11

(Zone 12)
NEW TOPANGA CANYON BLVD. & OLD TOPANGA CANYON BLVD., Topanga Canyon. (Consider car pool.) T. ANDREEVA (5160-14457, ext. 1754). 2-12

CENTINELA & WASHINGTON, Mar Vista. (Consider car pool.) DEE TRAVIS (9420-52021, ext. 2151). EX 7-5663. 2-12

(Zone 14)
YUKON & 110th ST., Inglewood. (Consider car pool.) BILL MARSH (5508-55464, ext. 2755). OR 7-0751. 2-14

7:30 a.m. — 4:15 p.m.

(Zone 5)
BOSTONIAN & SILVER FOX, Los Alamitos. DOROTHY MINNER (4200-13567, ext. 1452). GE 1-5489. 3-5

(Zone 7)
AVALON & CARSON, Torrance. (Until January.) SYLVIA HART (1300-41792, ext. 1801). TE 5-9472. 3-7

(Zone 12)
NEW TOPANGA CANYON BLVD. & OLD TOPANGA CANYON BLVD., Topanga Canyon. (Consider car pool.) T. ANDREEVA (5160-14457, ext. 1754). 3-12

CHAUTAUQUA & SUNSET, Pacific Palisades. (Established car pool.) E. A. KRAFT (8920-38911, ext. 667). GL 4-7338. 3-12

(Zone 13)
SATICOY & TOPANGA CANYON BLVD., Canoga Park. (Desire car pool.) W. R. FAUGHT (8930-32246, ext. 1386). DI 0-7216. 3-13

(Zone 14)
MANCHESTER & PRAIRIE, Inglewood. HELEN SCHECK (5148-54925, ext. 1344). OR 1-6581. 3-14

LA CIENEGA & PICO, Los Angeles. (Desire car pool.) PETER SCHLEISSNER (5120-56325, ext. 701). OL 5-7964. 3-14

8:00 a.m. — 4:45 p.m.

(Zone 1)
SANTA MONICA BLVD. & WESTERN, Hollywood. (Consider car pool.) HAROLD GREER (3242-53657, ext. 2775). HO 4-6094. 5-1

(Zone 3)
DENKER & 96th ST., Los Angeles. O. NAVARETTE (300-44343, ext. 2144). 5-3

(Zone 5)
KATELLA & 9th ST., Anaheim. (Consider car pool—Tuesday, Wednesday & Friday only.) FRED MAGIDSON (3254-44141, ext. 1257). PR 4-6946. 5-5

PIONEER & ROSECRANS, Norwalk. (Consider car pool.) H. F. SHAW (8832-32300, ext. 542). UN 8-2858. 5-5

(Zone 8)
CRENSHAW & PACIFIC COAST HWY, Torrance. ELEANOR PALOMBI (8800-49490, ext. 623). DA 6-9319. 5-8

(Zone 9)
TORRANCE BLVD. & MAPLE, Torrance. (Consider car pool.) MYER ALPERT (3620-55995, ext. 1889.) FA 0-0506. 5-9

3:45 p.m. — 12:15 a.m.

(Zone 5)
BELLFLOWER BLVD. & CARSON, Lakewood. G. W. SWANEY (5515-27021, ext. 1825). HA 5-4145. 6-5

(Zone 12)
AVIATION & CENTURY, Los Angeles. (Ride home only.) CARL BERNER, Jr. (5509-55435, ext. 2075). OR 2-7751. 6-12

4:45 p.m. — 1:15 a.m.

(Zone 5)
ALONDRA & PIONEER, Norwalk. MARY SUCERICH (5356-47150, ext. 2347). 8-5

RIDES WANTED

Miscellaneous — Split Shift

(Zone 4)
IMPERIAL & NORMANDIE, Los Angeles. (Hours: 7:45 a.m.—4:30 p.m.) KATHY TALKINGTON (1232-25210, ext. 3-333). PL 4-7158. 10-4

RIDES OFFERED

7:00 a.m. — 3:45 p.m.

(Zone 5)
CHAPMAN & HWY 39, Anaheim. (Via Rosecrans.) J. W. GRAY (5501-17619, ext. 2200). TW 3-8959. 12-5

(Zone 11)
MARIPOSA & SHELDON, El Segundo. (Consider car pool.) BILL DUVAL (5516-45536, ext. 533). EA 2-4306. 12-11

(Zone 12)
NEW TOPANGA CANYON BLVD. & OLD TOPANGA CANYON BLVD., Topanga Canyon. (Consider car pool.) T. ANDREEVA (5160-14457, ext. 1754). 12-12

CENTINELA & WASHINGTON, Mar Vista. (Consider car pool.) DEE TRAVIS (9420-52021, ext. 2151). EX 7-5663. 12-12

(Zone 14)
YUKON & 110th ST., Inglewood. (Consider car pool.) BILL MARSH (5508-55464, ext. 2755). OR 7-0751. 12-14

7:30 a.m. — 4:15 p.m.

(Zone 12)
NEW TOPANGA CANYON BLVD. & OLD TOPANGA CANYON BLVD., Topanga Canyon. (Consider car pool.) T. ANDREEVA (5160-14457, ext. 1754). 13-12

CHAUTAUQUA & SUNSET, Pacific Palisades. (Established car pool.) E. A. KRAFT (8920-38911, ext. 667). GL 4-7338. 13-12

(Zone 13)
SATICOY & TOPANGA CANYON BLVD., Canoga Park. (Desire car pool.) W. R. FAUGHT (8930-32246, ext. 1386). DI 0-7216. 13-13

(Zone 14)
LA CIENEGA & PICO, Los Angeles. (Desire car pool.) PETER SCHLEISSNER (5120-56325, ext. 701). OL 5-7964. 13-14

8:00 a.m. — 4:45 p.m.

(Zone 1)
BEVERLY & WILTON, Los Angeles. (Via Wilton, Arlington, Vernon, 8th Ave., Crenshaw.) RALPH LANDERS (8820-24187, ext. 417). HO 4-7747. 15-1

SANTA MONICA BLVD. & WESTERN, Hollywood. (Consider car pool.) HAROLD GREER (3242-53657, ext. 2775). HO 4-6094. 15-1

(Zone 5)
KATELLA & 9th ST., Anaheim. (Consider car pool—Tuesday, Wednesday & Friday only.) FRED MAGIDSON (3254-44141, ext. 1257). PR 4-6946. 15-5

PIONEER & ROSECRANS, Norwalk. (Consider car pool.) H. F. SHAW (8832-32300, ext. 542). UN 8-2858. 15-5

(Zone 9)
TORRANCE BLVD. & MAPLE, Torrance. (Consider car pool.) MYER ALPERT (3620-55995, ext. 1889.) FA 0-0506. 15-9

HAWTHORNE BLVD. & TORRANCE BLVD., Torrance. (Via Crenshaw.) MARY ANN COCHRUM (8890-13719, ext. 414).

3:45 p.m. — 12:15 a.m.

(Zone 6)
CHERRY & PACIFIC COAST HWY, Long Beach. BERNICE GATELY (5509-19949, ext. 2076). GE 3-3337. 16-6

4:45 p.m. — 1:15 a.m.

(Zone 5)
HARBOR & WESTMINSTER, Garden Grove. (Via Hwy 39, Spring or Carson, Artesia.) A. L. BURTON (5233-45341, ext. 2002). JE 1-2414. 18-5

MAMMOTH TRIP ON TAP AS SKIERS CRYSTALLIZE AGENDA

October's unseasonable heat only whetted the imagination of NRC skiers as they crystallized plans for winter and snowy mountainsides.

Tonight's second meeting of the new season at 7:30 will transport members to craggy peaks via a Swissair color movie "Skiing in the Alps."

And to guard against the cliched picture of the splinted skier, a demonstration of safety in skiing and first aid will be given by a member of the Mammoth Mountain Ski Patrol.

A portion of the meeting will be devoted to dry-land skiing. All those attending are urged to bring gym shoes or ski boots and to dress for an evening of gym ski workout.

Spotlighted in the agenda of planned outings is the year-end migration to Mammoth Mountain, December 26 through 31. According to Chuck Morse, Ski Club commissioner, the first night fee of $3.50 must be deposited with him by November 14.

On November 16 Mount Waterman will be footprinted by the skiers as they relocate the Northrop ski tow and prepare it for winter operations.

Square-dance Beat For New Dosedoers

And for those who like their dancing square . . .

Beginners in the art of dosedo are invited to attend the new 20-week class starting Friday, October 31, from 8 to 11 p.m. Stompin' ground is Bret Harte Junior High boys gym—entrance on Hoover and 92nd Streets.

Calling the turns will be Ralph Hill, well-known to square-dance devotees.

NRC Travel Club To Provide First Aid for Vacationitis

Would-be wayfarers and seasoned rovers will soon have an opportunity to do more than wish for unexplored vistas.

The horizons widen on Monday, November 3. At 7:30 that evening the NRC Travel Club is scheduled to embark.

Headlining the first port of call is Michael Alford, international vice-president of the National Travel Service. His discussion of group travel is slated to feature a film devoted to a foreign trip.

All Norcrafters, families and friends are invited to this first in an itinerary of constructive trip assistance. The meeting place is the NRC Clubhouse, 175 North Hawthorne Boulevard, Hawthorne. Refreshments will be provided by the Northrop Recreation Club.

SURFERS CASTING AT TOPAZ STREET

The NRC Surf Fishing Club signs point the way this Saturday to barred perch and corvina.

From 6 to 11 a.m. softshell sandcrabs and bloodworms will be cast into the surf just south of Redondo Beach pier where Topaz Street deadends.

Commissioner John Pawlicki reminds Norcrafters that both a monthly trophy for the largest edible fish and a novice trophy are on the line at this meet.

NRC Good Time Table for November

For enrollment or information on activities listed below, call or contact Personnel Activities, Plant One, 2784. All clubs meet at NRC Clubhouse unless otherwise noted.

ARCHERY (days), Wes Williams
Meet Wednesdays, 7:30 p.m. Archery classes now in session.

ARCHERY (nights), Paul Randolph
Meet Wednesdays, 12:15 p.m.

ART CLUB (days), Forrest Ayrest
Meet in Annex Thursdays, 7 p.m. Models furnished by NRC. Sculpture classes Wednesdays, 7:30 p.m.

ASTRONOMY (days), Jim Stowe
Meet 2nd & 4th Mondays, 7:30 p.m.

BASKETBALL
League practice at Leuzinger Hi Mondays & Thursdays.

BIBLE STUDY, Roy Stahl
Plant 1—Daily, 11:30-12:15, Tool Design Bldg; 11-11:45, 5566 Conf. Room.
Plant II—Mondays & Thursdays, 12-12:45, Conf. Room 2.
Eng. Center—Daily, 12-12:45, Reliability Conf. Room.

BOAT CLUB, Ken Payne
Meet 1st Wednesdays, 7:30 p.m. Water Ski Club (days) meets 3rd Thursdays, 7:30 p.m. Anchor Drag November 22.

BOWLING (days), Dave Carney

BOWLING (nights), Charlie George
Winter leagues now rolling.

BOY SCOUTS, Stan Morris
Sea Scouts, Intermediates, Cub Scouts. All Norcrafter boys welcome.

CAMERA CLUB (days), Fred Armstrong
Meet 1st, 3rd & last Wednesdays, 7:30 p.m.

CAMERA CLUB (nights), John Newman
Meet 1st & 3rd Saturdays.

CAMPING CLUB, Fred Brant
Meet 1st Mondays. Campout November 15-16.

CHESS CLUB, Bill Henderson

GEM & MINERAL CLUB (days), Ray Cole
Meet 2nd Wednesdays, 8 p.m. Mineralogy classes Thursdays, 7-9 p.m.

GOLF (days), Ted Deguisne

GOLF (nights), Russ Munsen
Ojai Valley November 16.

GUN CLUB (days), Robert Raines
Meet 3rd Wednesdays, 7:30 p.m. Pistol shoot at Torrance November 9, 2 p.m. Rifle shoot at Torrance November 23, 1 p.m.

MIXED CHORUS, Burt Bracher
Meet Tuesdays, 7:30 p.m. All Norcrafters welcome.

MODEL RAILROAD, Jack Wilson
Meet in Annex Thursdays, 7-10 p.m. Visitors welcome. Need electricians, carpenters & scenic artists to help with new layout.

ORGAN CLUB, Ted Childs
Meet at 1319 West 149th St., Gardena, Wednesday, October 29. Meet Wednesday, November 19.

PHILATELIC CLUB, Eugene Richardson
Meet 2nd & 4th Mondays, 7 p.m.

RADIO CLUB (days), Andy Dolak
Meet last Thursdays, 7:30 p.m. Radio code class meets Wednesdays, 7:30 p.m. NRC's station is W6VPZ.

RADIO CLUB (nights), Merwin McGrew
Meet last Thursdays, 1:30 p.m.

SKEET CLUB, Dan Kawashima
Meet alternate Saturdays at Long Beach Dominguez Gun Club on Artesia Blvd. 10:30 a.m.

SKI CLUB, Chuck Morse
Meet 2nd & 4th Wednesdays, 7:30 p.m.

SKINDIVING (days), Ralph Gonzales
Meet 3rd Wednesdays, 7:30 p.m.

SKINDIVING (nights), Lillian Kemble
Meet 3rd Wednesdays, 1 p.m.

SPORTS CAR CLUB, Jack Kirkpatrick
Meet 2nd Thursdays, 7:30 p.m.

SQUARE DANCING, George Sanborn
Beginners' class at Bret Harte Jr. Hi Fridays, 8-11 p.m., starting October 31.

SURF FISHING, John Pawlicki
Meet 1st Tuesdays, 7:30 p.m. Redondo Beach (Topaz Street) October 25, 6-11 a.m.

TABLE TENNIS, Robert Burke
New league after Christmas.

TENNIS
League play to begin.

TOASTMASTERS 212 (days), John Walker
Meet at Western Avenue Country Club Thursdays, 6:30 p.m.

TOASTMASTERS 1398 (nights), Verne White
Meet at Western Avenue Country Club Thursdays, 12:15 p.m.

TOASTMASTERS 2583 (days), Howard Cornelius
Meet at Kim's Restaurant Mondays, 6:15 p.m.

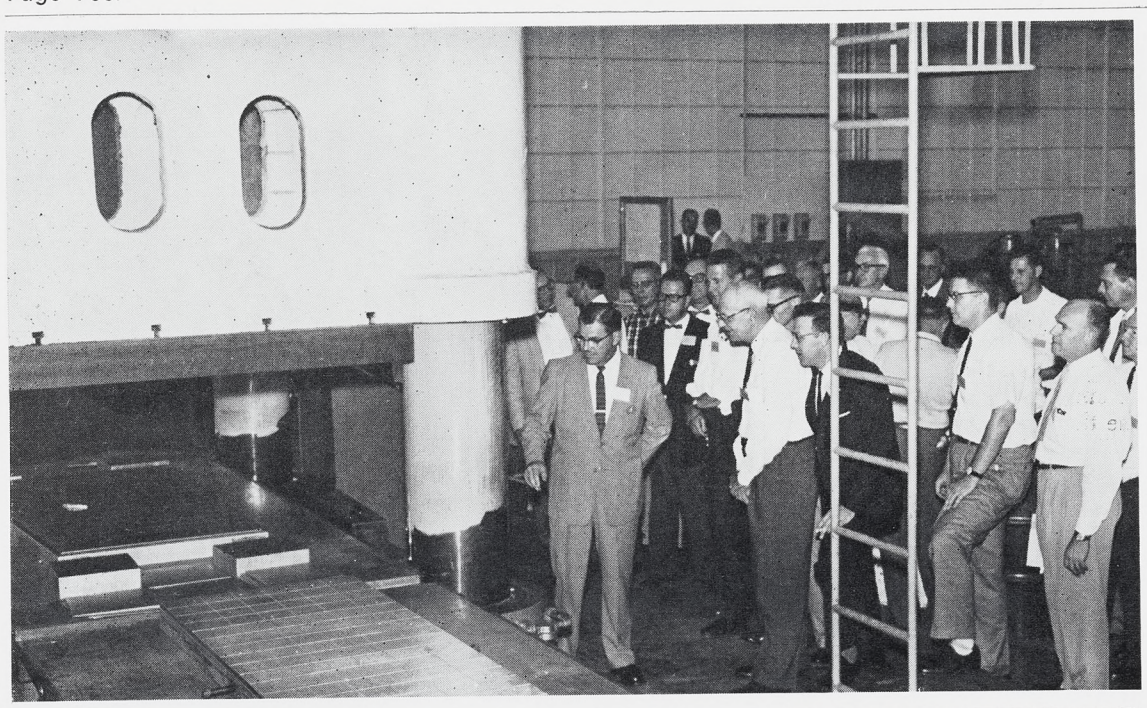
FOR THE LADIES

BOWLING (days), Joan Ryan.

BOWLING (nights), Mary Mimnaugh
Winter leagues now rolling.

GIRL SCOUTS, Dallas Vasquez
Mariners, Intermediates, Brownies. All Norcrafter girls welcome.

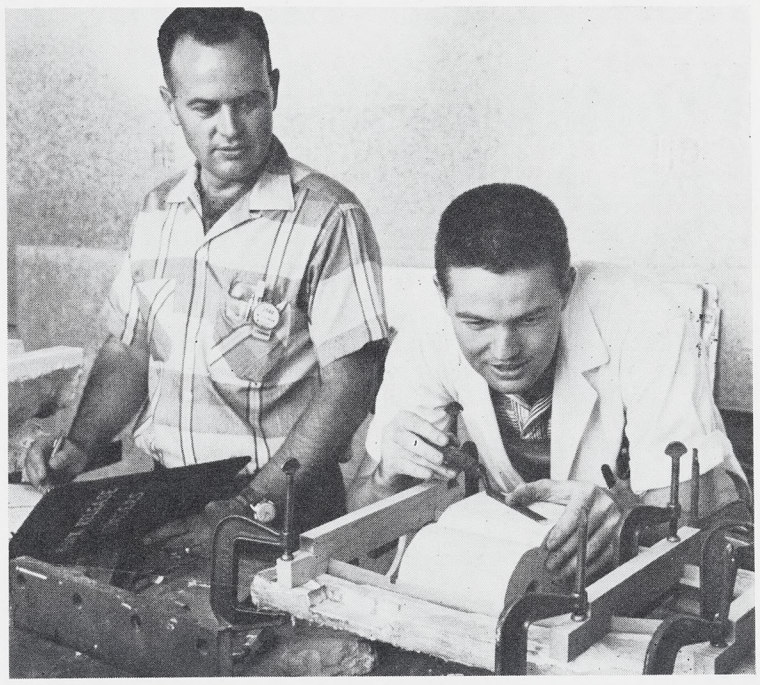
TOASTMISTRESS, Marge Gates
Meet in NRC Clubhouse Board Room 1st & 3rd Thursdays, 7 p.m.



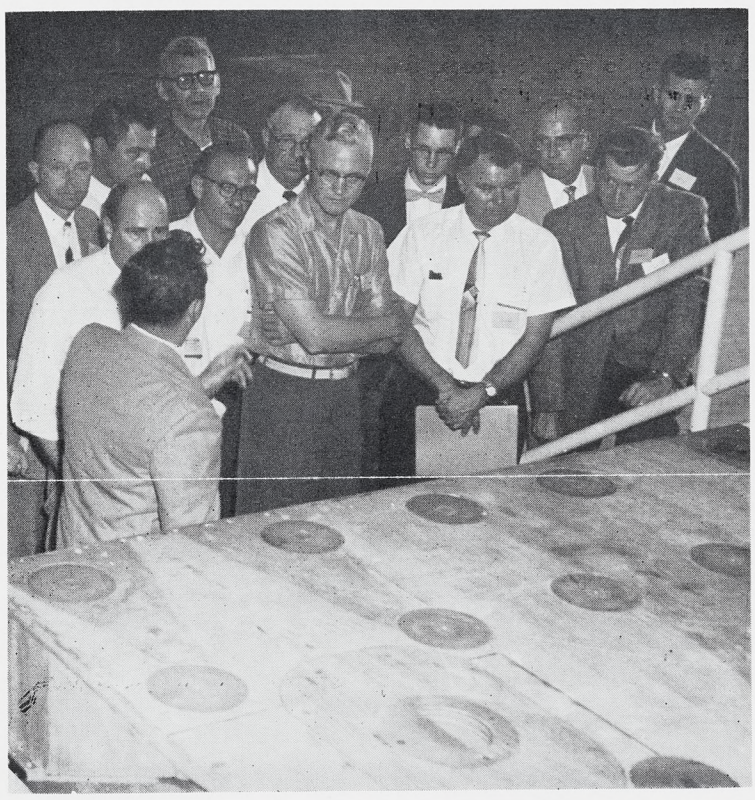
NORTHROP "AIR LIFT"—Touring members of the Conservation Committee of the Aircraft Industries Association view Northrop-developed feed table that floats on a cushion of air for friction-free operation. Research engineer John Hanson, left foreground, explains to the group how honeycomb assemblies that require crushing of the honeycomb for edge attachments are placed in dies in 3500-ton hydropress, crushed under controlled pressures.

Northrop News Pictorial

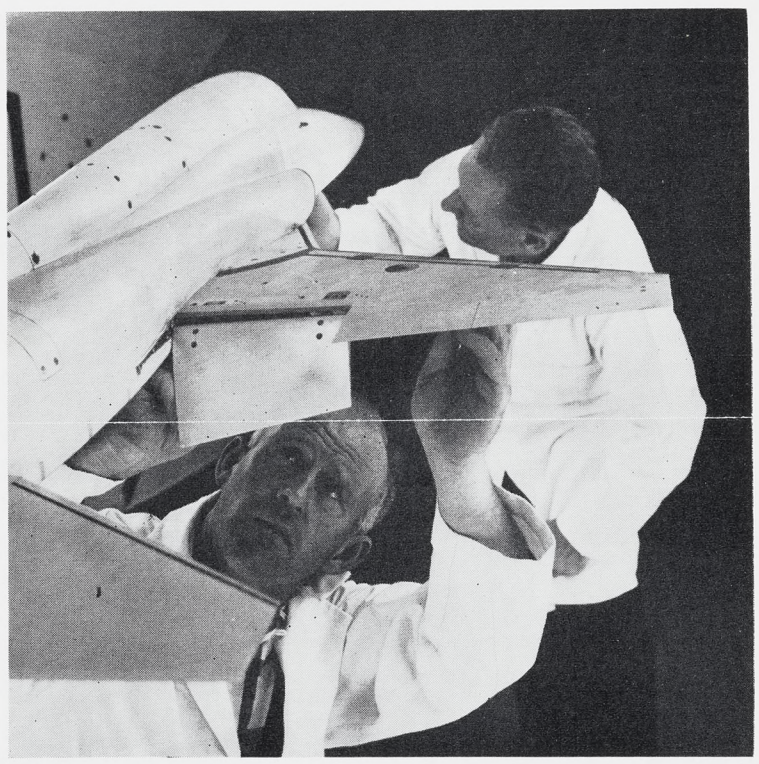
From a Hunk of Wood...



MODEL SHOP PRECISION—Chief Metrologist Bill Henrich surveys the minutely accurate shaping being done by Pete Garraigan, molded plastic tooling builder. Pete is working on a balsa support structure for low-load nose of high-attitude model of T-38, destined for wind tunnel testing. Tolerances are extremely precise so that tested configuration will provide true picture of capabilities.



EXCITER — As part of the American Society of Tool Engineers convention activities, Northrop Division airframe research and manufacturing techniques were viewed. At left, Bill McDowell, Electromechanical Test, explains huge electro-hydraulic vibration exciter in foreground. The Northrop-developed vibrator is capable of creating forces of up to 96,000 pounds at frequencies between 2 and 1000 cycles per second. McDowell pointed out unique feature of machine —its stroke of seven inches.

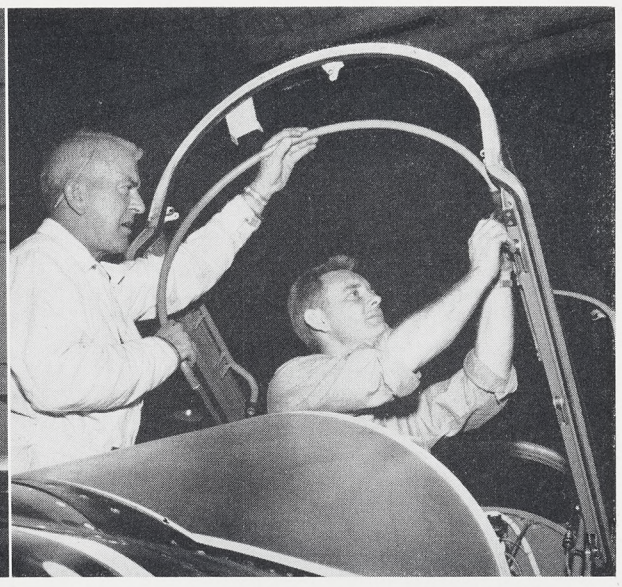


AND WHERE IT COUNTS—The precision insisted upon in the model shop counts here in the wind tunnel. Effecting one of the frequent model changes are Ken Yost and Gene Boggess. By altering the configuration in various ways, wind tunnel engineers acquire significant data that emerge in the form of reliably functional products, slash malfunction occurrence.

Stingy Pitching Cops Facility Crown

DUEL FROM THE MOUND—In two tight games for the Hawthorne facility softball sceptre, 5437—Plaster Shop, tops in the American League, bested the night league champions. Jack White was the stingiest hurler in both games. Displaying their trophies above are, from left, Bill Beals, Marty Engel, Perry Cannon, Randy Edmonds, Jack Gibilisca, Frank Rosenstiel, Manager Monty Gmur, Alex Schmidt, George Pettus, Jerry Schisser, Jack White.

BAT OF A DIFFERENT COLOR—Insisting that Rinkidink representatives Vern Bachelor and Barry Bailey are being too modest is, right, Ken Klier, NRC softball day commissioner. The Rinkidinks earned this dubious trophy in the recent Black Bat Tourney wherein first-round team beaten by most topheavy score gets the stick.



FOR FIRST FLIGHT AT EDWARDS—T-38 crew members give long hours of meticulous attention to detail as they painstakingly ready the T-38 for her supreme test—first flight at Edwards Air Force Base. From left, Orville Martin, Fairley Stalnaker, Frank Harrison, crew chief, and Louie Weltz, foreman, rig T-38 stabilator (horizontal stabilizer and elevator combined). Next, Bud Adams and Larry Wisken, liaison engineers, review checkoff of final flight sequences and engineering orders. At right, Kelly Burke, instrumentation foreman, and Chris Soihl check the canopies for pressure provisions.

NORTHROP

NEWS BRIEFS

HIDDEN BENEFIT—A substantial, but seldom realized, benefit for all Norcrafters is pointed up with a statement on retirement plan funding for 1957-8. George Gore, Corporation secretary and general counsel, Northrop Division, reports that Company monies funded into the retirement plan last year totaled 6.9 cents an hour for all Northrop Division personnel as well as those in other Company Divisions. Total Corporate funds deposited for retirement were $3,014,049 for 1957-8.

T-38 PROGRESS—The T-38 static test airplane has been accepted by the Air Force two days ahead of schedule, it has been announced by General Manager Nolan . . . This airplane now goes to Engineering Test Lab for complete program of static test—even to destruction—under all critical conditions that might be encountered in flight . . . Note—this is the first time that a complete airplane has undergone static test program at Northrop Field.

INCREASE OUR SPECIALTIES—John Alison, vice-president, Customer Relations, in discussing Department Planning, stated to the *Northrop News*, "We are increasing our Customer Relations activity to obtain subcontracts, prime contracts, and associate contracts in all Division product areas including those of the rapidly expanding space age. The new Corporate alignment with autonomous Divisional responsibility and a highly competitive market requires this broad customer relations approach. Definition of customer requirement and specialization in the various product areas is being effected. Customer Relations staff augmentation and realignment to achieve this are now in progress."

COLONEL H. T. MORRIS

TAX REFUND—Recent ruling by the Supreme Court of the State of California directs that the County of Los Angeles refund to government contractors taxes collected during the period 1953 to date on government personal property in the hands of private contractors. In 1953 the county made assessments on government-owned materials, inventories, and work in progress. This was later expanded to include government tooling and government facilities in the form of machine tools, bailed property and other personal

(See NEWS BRIEFS, Page 2)

T-38 FOR EDWARDS—Spud Webster and Louie Baker, chief electrician, carefully run continuity checks in process of proving out supersonic trainer's circuits. Smoky Wilson rigs nose steering. Next, Vic Peck proceeds with instrumentation installation, soldering an oscillograph connection. At right, Hal Berry and Ed Gerdovich with more instrumentation—installing thermocouples in tail area. T-38 is now in final inspection. Engines, taxi tests next.

Northrop News

NORTHROP DIVISION

Issued Every Two Weeks at Northrop Field, Hawthorne, Calif. Wednesday, November 5, 1958

Scorpion Headlines AF Tyndall Meet With Genie A-rocket Shots

TYNDALL AFB, Florida—Top place in the F-89J and F-102 competition of the USAF worldwide weapons meet was decided last week when the Scorpions and Delta Daggers roared off into overcast skies completing their final firing missions.

In the F-89J competition, the 465th FIS, Griffis AFB, won top honors with 39,500 points. Col. Frank Keller, team captain, also assured himself of the F-89J team captain's trophy by scoring 32,900 of his team's total points.

Keller was tied with Col. George F. Ceuleers of the 84th FIS, requiring a shootoff. Keller clipped the target for a perfect hit, copping the crown.

The 326th Fighter Interceptor Squadron, Richards-Gebaur AFB, Missouri, was victorious in the F-102 event. Led by Col. John H. Bell, the Central Air Defense Force team piled up a winning score of 39,900 points.

Colonel Roy B. Gaviness, 482nd team captain, Seymour-Johnson AFB, took high score in the F-102 individual competition with 32,900 points. His team ran second with 34,100 points.

In the F-86 division, Col. Robert E. Dawson, captain for the 125th Air National Guard entry, Jacksonville, Fla., took high score for this division with 39,600 points, giving him the additional honor of being top scorer for the meet. Dawson registered six perfect hits.

Col. Morris Made AFPR To Northrop

Colonel Harold T. Morris, former OOAMA inspector general, has been named Air Force plant representative to Northrop Aircraft, Inc., it has been announced by Major General P. H. Robey, commander, Ogden Air Materiel Area.

Colonel Morris reported to OOAMA last July. He was formerly chief of the Materiel Section, U. S. European Command. He is a graduate of Depauw University and the Industrial College of the Armed Forces. He served in the Southwest Pacific for three years during World War II, and is a native of Fort Wayne, Indiana.

He is scheduled to take up his duties beginning Monday of this week.

Colonel Morris and his family will reside in Palos Verdes.

Lt. Colonel D. R. Simcoe, jr., Northrop plant representative for the past year-and-a-half, is now on medical leave and is convalescing at the San Diego Naval Hospital from major surgery.

COLONEL SIMCOE

Colonel Simcoe has asked the Northrop News to extend thanks to all those who have sent cards and letters during his illness.

The note from Colonel Simcoe read: "I wish to express my sincere thanks and appreciation for the many cards and get-well wishes which I have received from Northrop Aircraft, Inc., employees."

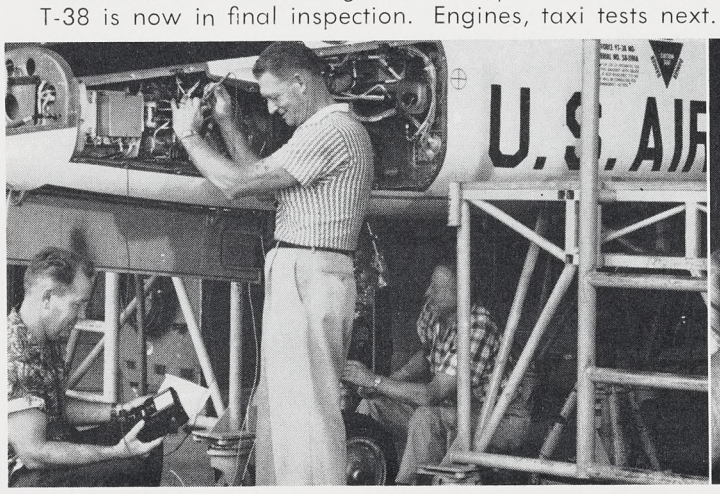
At press time, Colonel Simcoe's best wishes mail had set a record in volume and it continues to pour in.

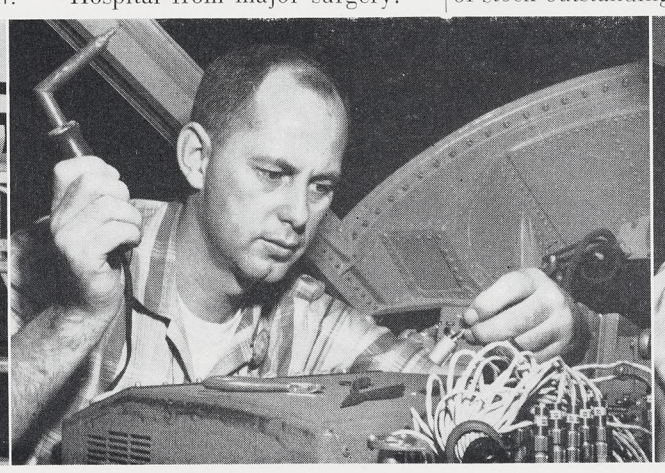
Shareholder Report Out And Mailed

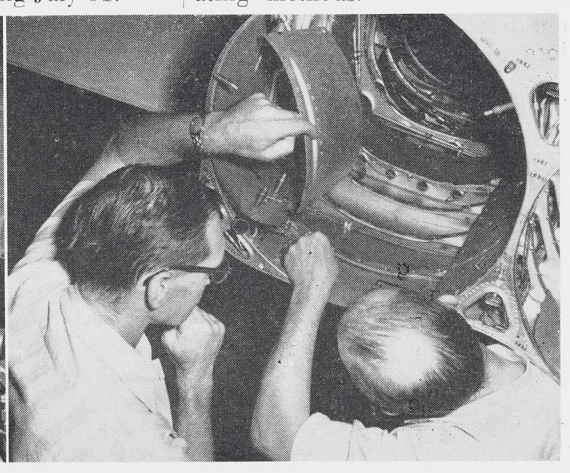
Northrop Aircraft's annual report for fiscal year 1957-58 was issued last week and is now being mailed to shareholders.

As reported in the *Northrop News* on October 8, Company earnings rose 23 per cent over 1956-57 with net income amounting to $6,796,285, equal to $4.29 a share for the 1,583,173 shares of stock outstanding July 31.

Northrop Aircraft President Whitley C. Collins paid tribute for the fine earnings record as largely achieved through the continuous emphasis placed on cost controls and improved operating methods.







Northrop Cafeteria Bonus Days Set for November 10, 11, 12 - - Register Decides

Cafeteria-ing Norcrafters ring the bell—and lunch gratis.

For the first three days of next week—November 10, 11 and 12—Cafeteria Bonus Days will encore. According to Fred Wolfe, chief, Cafeteria, details of the program are identical to those for the first trio of Bonus Days.

No boxtops, no slogans, no jingles. A hearty appetite is all that's needed to enter . . . the plant cafeterias where the food's so good everyone wins.

A bonus timer in each cash register ticks off the free-lunchers. When the timer bell rings, the Norcrafter at the cashier feasts for free, courtesy of the Cafeteria.

There will be two winners at each cash register during each lunch period. For Plant One and Engineering Center there are four registers and four periods—thus, 16 lunches "on the house" each day. At Plant Three there will be six free meals daily.

Night-shift Norcrafters will also be treated to the timer's tinkle and the jingle of the coins that stay in the pocket. And those in outlying facilities who chow up from "chuck wagons" will find their bonus in the form of gift certificates hidden in the plate lunches.

T—38 Air Force First

To: F. W. Lloyd
Vice-president, Manufacturing
Subject: Letter of appreciation

The Ground Support Equipment Demonstration and Certification Conference for T-38 aircraft was conducted by the Logistics group of the Customer Service section, 7 through 9 October 1958, in the Northrop Product Display Building.

The results of this conference were very satisfactory to the customer and to Northrop. Among the many favorable comments was this quote from the SSPO. " . . . this . . . the first time . . . that any contractor has supplied all basic support equipment for an airplane prior to first end article delivery." This occasion marks another Northrop first.

The success of this conference can be largely attributed to the wholehearted cooperation and support received from the Manufacturing organizations.

Customer Service wishes to express its sincere thanks to the Manufacturing heads and their personnel for outstanding contributions to the success of this program.

Lee H. Smith
Director, Customer Service

NEWS BRIEFS

(Continued from Page 1)

property. Taxes on the contractors' interest in government-owned land and buildings, although assessed and paid, were not contested by the contractor or by the government. Contractors paid the personal property taxes each year under protest as litigation proceeded. George Gore was chairman for four years of the industry committee which coordinated the problem among industry, the county and the government, and which started the litigation successfully concluded last week before the state Supreme Court. Most of the refund monies, when received by the contractors, will be paid over to the federal government.

ANOTHER T-38 FIRST—T-38 fuel system checkout and functional tests were accomplished in record time of one day, it has been announced by General Manager Nolan. "Tests of this kind," he stated, "usually require from 3 to 10 days but the T-38 complete fuel system, including single-point fueling, was checked and found to be without a malfunction in one day. This is the first time, to my knowledge, that a new airplane has been able to do this. We are certainly pleased." (For another T-38 first, see Lee Smith letter of appreciation, this page.)

VISITORS—"A record 910 customer visits will be logged in at Northrop Division by end of the calendar year," states John Alison, vice-president, Customer Relations. Average number of visits during past three years is 721. Increase is nearly 26 per cent. Customer visits are defined as those from Air Force, Navy, Army, Department of Defense, miscellaneous government agencies, industrial organizations, and foreign countries . . . Number of visitors per visit, however, will decline from 3.2 persons to 2.5 persons. "This is due to the many small-group, long-distance foreign callers—also to the many single individuals coming here to see PACE," stated Mr. Alison. "Customer missions to Northrop fall into two main categories: to study our products and to see our capability in terms of people, facilities, and equipment . . . Forty-seven foreign countries sent customer missions to Northrop this year. Most foreign visitors came from Japan with six visits. Germany was next with three. Four others had two visits each: Turkey, Greece, Denmark and Belgium. Hosting foreign visitors, of course, is a service to Northrop International . . . Customer visits here are to be considered one of our most valuable assets," Mr. Alison continued . . . "What the customer sees, hears, how he is treated, our cordiality and our hospitality, and our genuine regard for his comfort while under our roof—these form lasting impressions. All Norcrafters should consider visitor welfare a personal responsibility."

Booklet on Fallout to Norcrafters

The government booklet, "Facts about Fallout Protection," will be distributed free to all Norcrafters next Friday, November 7.

The booklet will be handed out with the pay checks by organization clerks.

"Facts about Fallout Protection" was printed by the Office of Civil and Defense Mobilization.

Issuance of the booklet is in connection with the new Emergency Plan for the Hawthorne facility, which will be published soon. The new plan gives major emphasis to protection of Norcrafters during possible emergencies and is approved by the Disaster Control Policy Board. The plan will be implemented by Security and Protection Services, Paul H. Crews, director, and will inform Norcrafters as to the latest methods developed to protect life and property in case of emergency or disaster.

Distribution will be to the Northrop - Hawthorne complex and to the Corporate offices in Beverly Hills.

A Civil Defense Preparedness wallet-sized instruction card will also accompany the booklet.

FATHERS, SONS, DAUGHTERS IN M-C MEETING

Management Club pops will be wingdinging the progeny come Saturday, November 15.

The M-C Annual Frolic for sons and daughters is slated for 4:30 p.m. to 8 p.m. at the NRC Clubhouse.

Menu is especially keyed to young appetites with hamburgers and hot dogs starred. The entertainment course features Irene McAfee and her performing dogs, plus Bobo—"the funniest clown in town."

RADIOLOGICAL COURSES START NEXT WEEK

Due to get under way next week, the first radiological meter operator courses at Northrop Division will instruct some thirty Norcrafters in the technique of determining safety limits for nuclear undertakings at Northrop.

The courses, to be sponsored by the California Disaster Office, Region 1, and under the auspices of Hawthorne Civil Defense, will be taught by Bob Fortney and Bob Johnson, Nuclear Technology, section 3200.

Those attending the first sessions will be mostly guards, firemen, safety engineering folk and selected Nortronics personnel.

Classes will be conducted in five 3-hour sessions during the period of one week.

Equipment for the courses, including cobalt 60, will be furnished by the state.

Coordination is through Industrial Training Administration. Additional classes will be scheduled if required.

RIDES WANTED

7:00 a.m. — 3:45 p.m.

(Zone 1)
WESTERN & 6th ST., Los Angeles. PAUL BALDES (5503-52716, ext. 2216). DU 2-3072. 2-1

(Zone 2)
OVERHILL & SLAUSON, Los Angeles. G. C. GOODENKAUF (5234-15690, ext. 2524). AX 3-4486. 2-2

(Zone 4)
NORMANDIE & 112th ST., Los Angeles. V. A. ENTWISLE (5563-21484, ext. 2011). PL 6-2450. 2-4

CENTRAL & RIVERSIDE AVE., Chino. (Desire car pool.) C. W. RYAN (7721-11864, ext. 2054). 2-4

(Zone 5)
SANTA ANA FRWY & MAGNOLIA, Anaheim. (Desire car pool.) A. F. TRULL (7735-26943, ext. 1571). JA 7-2565. 2-5

(Zone 9)
CATALINA & AVE. I, Redondo Beach. HELEN GALE (7722-26768, ext. 2243). FR 5-2130. 2-9

PRAIRIE & REDONDO BEACH BLVD., Torrance. RAE FREEMAN (5351-16062, ext. 1318). DA 9-6079. 2-9

(Zone 10)
ARDMORE & PACIFIC, Manhattan Beach. (Desire car pool.) E. T. HAMPTON (3413-30626, ext. 741). FR 9-4653. 2-10

ARDMORE & 1st ST., Manhattan Beach. JANE SHILLING (7440-27141, ext. 1240).

(Zone 13)
SEPULVEDA & WASHINGTON, Culver City. H. L. BENNETT (5338-16561, ext. 2470). VE 7-4237. 2-13

7:30 a.m. — 4:15 p.m.

(Zone 3)
WESTERN & 108th ST., Los Angeles. T. ANDREEVA (5160-14457, ext. 1754). GE 4-8949. 3-3

(Zone 5)
CARSON & PALO VERDE, Long Beach. (Desire car pool.) KARLA DIXON (9542-51034, ext. 2229). HA 9-7732. 3-5

(Zone 12)
SEPULVEDA & 77th ST., Los Angeles. (Desire car pool.) F. L. BAIN (7620-19991, ext. 2158). OR 4-6816. 3-12

8:00 a.m. — 4:45 p.m.

(Zone 1)
SANTA MONICA BLVD. & WESTERN, Hollywood. (Consider car pool.) HAROLD GREER (3242-53657, ext. 2775). HO 4-6094. 5-1

BEVERLY & WILTON, Los Angeles. (Consider car pool; via Wilton, Arlington, Vernon, 8th Ave., Crenshaw.) RALPH LANDERS (8820-24187, ext. 417). HO 4-7747. 5-1

(Zone 3)
DENKER & 96th ST., Los Angeles. O. NAVARETTE (300-44343, ext. 2144). 5-3

PLACENTIA & SOUTH, Anaheim. ROSE JOHNSTON (8893-25808, ext. 2043). NE 5-9829. 5-5

(Zone 5)
EUCLID & KATELLA, Anaheim. (Consider car pool—Tuesday, Wednesday & Friday only.) FRED MAGIDSON (3254-44141, ext. 1257). PR 4-6946. 5-5

OSTROM & TURNERGROVE, Lakewood. (Established car pool.) J. O. BARRETT (3322-29489, ext. 2024). HA 9-5140.

DEL AMO & WOODRUFF, Lakewood. (Established car pool.) L. D. LONG (3148-56365, ext. 745). TO 7-4696. 5-5

BELLFLOWER & CARSON, Lakewood. W. W. STARK (3320-29514, ext. 2024). HA 9-2015. 5-5

(Zone 9)
CONDON & 147th ST., Lawndale. (Desire car pool.) PAULINE MAGGARD (3143-51178, ext. 1630). OS 6-3090. 5-9

(Zone 11)
BROADWAY & INGLEWOOD AVE., Hawthorne. MAUREEN O'MALLEY (8830-56405, ext. 1711). OS 6-6298. 5-11

(Zone 12)
PACIFIC & WASHINGTON, Venice. (Desire car pool.) W. F. WELTNER, Jr. (3273-53665, ext. 1224). EX 6-2356. 5-12

BLOOD BANK

The Red Cross Blood Mobile unit will come to the NRC Clubhouse on November 20 from 9 a.m. to 2 p.m.

Norcrafters' blood bank account is "overdrawn" and three hundred and sixty donors are needed this trip to bring us even.

All Norcrafters who would like to give blood are urged to contact their supervision. Blood donor application forms should be in Personnel Activities office by November 14.

RIDES WANTED

8:00 a.m. — 4:45 p.m.

(Zone 13)
INGLEWOOD AVE. & MANCHESTER, Inglewood. MARJORY SMALLEY (8830-56427, ext. 1711). OR 4-2346. 5-13

3:45 p.m. — 12:15 a.m.

(Zone 9)
HAWTHORNE BLVD. & HWY 101, Torrance. JOHN BOURCIES (5512-55353, ext. 2568). DA 6-8992. 6-9

4:45 p.m. — 1:15 a.m.

(Zone 9)
PALOS VERDES DR. & SEPULVEDA, Torrance. (Desire car pool.) J. L. GREEN (5564-11940, ext. 2231). FR 8-2609. 8-9

RIDES OFFERED

7:00 a.m. — 3:45 p.m.

(Zone 4)
CENTRAL & RIVERSIDE AVE., Chino. (Desire car pool.) C. W. RYAN (7721-11864, ext. 2054). 12-4

(Zone 5)
SANTA ANA FRWY & MAGNOLIA, Anaheim. (Desire car pool.) A. F. TRULL (7735-26943, ext. 1571). JA 7-2565. 12-5

(Zone 10)
ARDMORE & PACIFIC, Manhattan Beach. (Desire car pool.) E. T. HAMPTON (3413-30626, ext. 741). FR 9-4653. 12-10

7:30 a.m. — 4:15 p.m.

(Zone 5)
CARSON & PALO VERDE, Long Beach. (Desire car pool.) KARLA DIXON (9542-51034, ext. 2229). HA 9-7732. 13-5

(Zone 12)
SEPULVEDA & 77th ST., Los Angeles. (Desire car pool.) F. L. BAIN (7620-19991, ext. 2158). OR 4-6816. 13-12

8:00 a.m. — 4:45 p.m.

(Zone 1)
SANTA MONICA BLVD. & WESTERN, Hollywood. (Consider car pool.) HAROLD GREER (3242-53657, ext. 2775). HO 4-6094. 15-1

BEVERLY & WILTON, Los Angeles. (Consider car pool; via Wilton, Arlington, Vernon, 8th Ave., Crenshaw.) RALPH LANDERS (8820-24187, ext. 417). HO 4-7747. 15-1

(Zone 5)
EUCLID & KATELLA, Anaheim. (Consider car pool—Tuesday, Wednesday & Friday only.) FRED MAGIDSON (3254-44141, ext. 1257). PR 4-6946. 15-5

BELLFLOWER & CARSON, Lakewood. W. W. STARK (3320-29514, ext. 2024). HA 9-2015. 15-5

OSTROM & TURNERGROVE, Lakewood. (Established car pool.) J. O. BARRETT (3322-29489, ext. 2024). HA 9-5140.

DEL AMO & WOODRUFF, Lakewood. (Established car pool.) L. D. LONG (3148-56365, ext. 745). TO 7-4696. 15-5

(Zone 9)
CONDON & 147th ST., Lawndale. (Desire car pool.) PAULINE MAGGARD (3143-51178, ext. 1630). OS 6-3090. 15-9

(Zone 12)
PACIFIC & WASHINGTON, Venice. (Desire car pool.) W. F. WELTNER, Jr. (3273-53665, ext. 1224). EX 6-2356. 15-12

3:45 p.m. — 12:15 a.m.

(Zone 6)
CHERRY & PACIFIC COAST HWY, Long Beach. BERNICE GATELY (5509-19949, ext. 2076). GE 3-3337. 16-6

(Zone 7)
ANAHEIM BLVD. & MARINE, Wilmington. HARRY ZIEM (5223-37142, ext. 2109). TE 5-5833. 16-7

(Zone 10)
GOULD LANE & SEPULVEDA, Redondo Beach. (Via Redondo Beach Blvd., Prairie.) F. J. BANDELL (5161-52930, ext. 2071). FR 6-3667. 16-10

4:45 p.m. — 1:15 a.m.

(Zone 9)
PALOS VERDES DR. & SEPULVEDA, Torrance. (Desire car pool.) J. L. GREEN (5564-11940, ext. 2231). FR 8-2609. 18-9

Northrop News

Vol. 17 No. 3

Northrop Field, Hawthorne, Calif.

A NORTHROP AIRCRAFT INC. PUBLICATION

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PUBLIC RELATIONS
NORTHROP DIVISION

CHARLES BARR, Director

CHARLES BRADFORD, Editor

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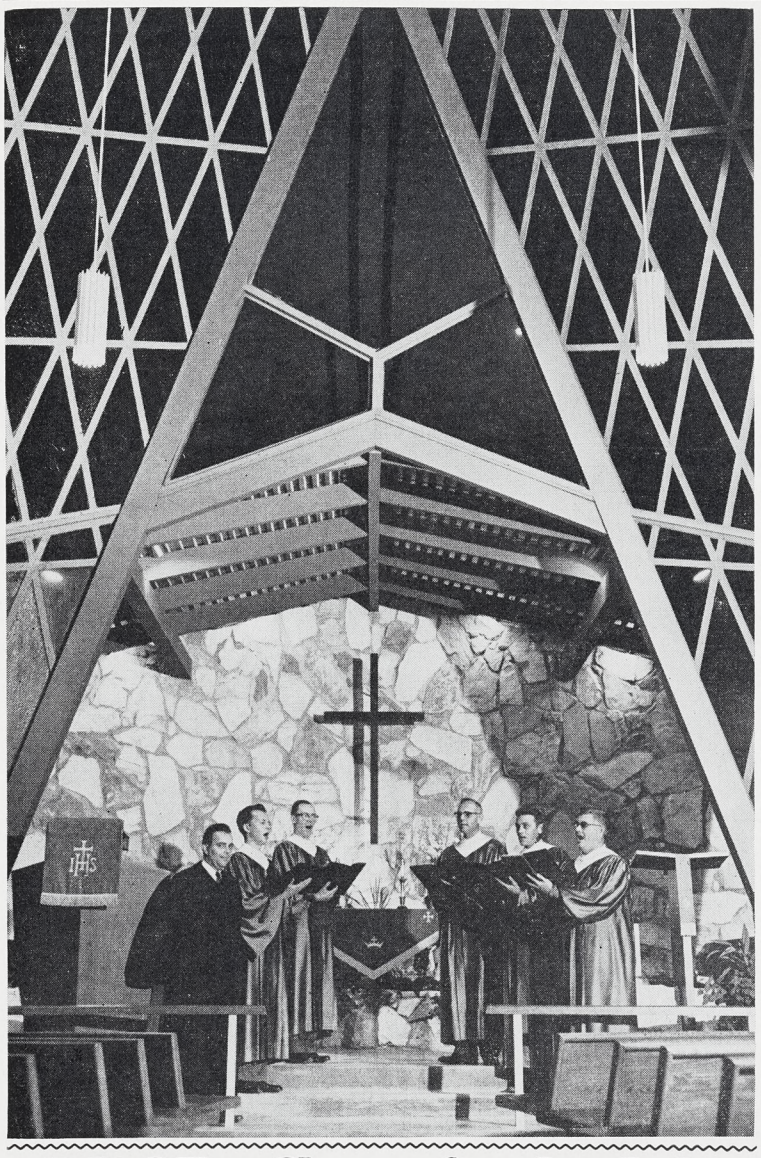


PRELUDE TO "MESSIAH"—Rehearsing their parts in the coming performances of Handel's "Messiah" are, from left, Rev. Delaney of the La Tijera Methodist Church (inspiring star-shaped chapel where photo was taken); George Wanderlich; Burt Bracher, NRC Mixed Chorus commissioner; Walter Gilman; Robert Pratt; and Charles Nixon, director. See story below.

BBSF Classified Ads

BBSF classified ad service is provided free of charge to all Norcrafters.

Items advertised in "For Sale" and "For Sale or Trade" categories are limited to a maximum of $50. Price must be stated.

Box numbers will be provided for Norcrafters who do not have home phones or who do not wish calls. Replies to box numbers are to be in writing and sent to the News Office.

Ads for agencies, commercial enterprises and private businesses are not accepted.

Deadline is noon Monday, nine days before publication.

FOR SALE

DRUM, Slingerland snare-type, w/stand, sticks & practice pad, cost $75, $25. AX 1-9010. A

MICROMETER, Reed 1", $14. PL 5-9075.

TUNER, Espey AM-FM hi-fi, w/built-in preamp & record equalizer for GE cartridge, $35. FR 9-5088. A

STROLLER, Foldarola, $12.50. HA 9-8713.

STOVE, Gaffers & Sattler 4-burner, 10 yr old, griddle, $22.50. FR 5-8846. A

HOUSEHOLD FURNISHINGS, bookcase, 5'x4'x10"; shelves, 3; planter box; $20. FR 6-1832. A

SINK-CABINET, American Kitchen 54", faucets, bread box, bread board, cost $110, $50. OS 5-3229. A

RANGE, O'Keefe & Merritt, gas, $40. FR 5-0867. A

CAMERA, Rolleicord, Compur rapid shutter, Triotar f:3.5 lens, $35. DA 6-8196. A

DINETTE SET, chrome & pearl gray, table w/leaf & 4 chairs, $40. FR 5-7441. A

ELBOW CRUTCHES, Strand aluminum, adjustable, $10. Box 301. A

FORD, 1950 2-dr, $50. Box 302. A

PREAMPLIFIER, Fisher 50C hi-fi, new tubes, $25. FR 9-8500. A

BOX SPRING, Simmons Beautyrest long-twin-bed size—38"x80", $25. FR 2-4318.

SPINNING WHEEL, antique, $50. OS 6-9521. A

GUNS, Winchester 03 automatic, $20; Colt Lightning, $20. FA 8-5365. A

ARCHERY EQUIPMENT, bows, 2; Bear Polar 42-lb, $18; Bear Cub 30-lb, w/doz matched wood arrows, $22. PL 6-4642. A

SEWING MACHINE, $40. DA 5-0133. A

TV SET, GE 12½" console, mahogany w/ doors, $40. TH 6-5589. A

TV SET, RCA 17" console, $25. OR 7-8083. A

DEEP FRYER, Presto, $5. PL 5-8650. A

DINING ROOM SET, mahogany, $10. DA 4-4750. A

RADIO, Admiral table model, mahogany color, $10. FR 7-1253. A

SKI BOOTS, Sandler, woman's size 7, $10. FR 5-6395. A

BUFFET, maple, $25. AX 4-0727. A

SAND BOX, umbrella mtg, portable w/ wheels, $25. DA 3-0719. A

ROTISSERIE, Broil-Quick-Chef electric, $17.50. FR 5-2775. A

RUG, 9'x12', floral on maroon, $25. PL 1-3523. A

SHAVER, Remington 60 Deluxe electric, $15. HO 4-7747. A

VACUUM CLEANER, GE, $3. GR 7-1539.

FOR SALE

VACUUM CLEANER, Premier upright, $10. FR 9-0911. A

WASHER, ABC automatic, $20. OR 7-1792. A

STOVE, Welbuilt gas, 2 yr old, $50. FR 7-3206. A

FURNITURE, blonde, modern, coffee table & end tables, glass-topped, $20. OR 1-3645. A

WANTED TO BUY

BOAT, 16', w/trailer & 35-hp outboard. Box 303. B

WELDING TANKS, oxygen & acetylene. DA 3-1078. B

HORSEMAN'S EQUIPMENT, English, bridle & saddle, park seat or polo, medium. OR 4-7776. B

BICYCLES, 2, girl's 26". ME 0-4368. B

FOR TRADE

CHUCK, 3-jaw-type for 9" lathe, 2 sets of jaws, trade for binoculars or table saw. PL 2-9597. C

HEDGE CLIPPERS, electric, trade for 2-brush electric waxer. DA 9-6728. C

EXHAUST PIPES, crossover-type, for late model Triumph motorcycle, trade for downsweep-type pipes. FR 6-0670. C

FREE (to be given away)

KITTENS, 8-wk-old, yellow long-hair. DA 3-2052. D

CHILD CARE OFFERED

CHILD CARE, licenced, near Northrop, fenced yard & constant supervision, hot meals, ages 2-6. OS 6-1853. G

FOUND

MECHANICAL PENCIL, found in Plant 3 area. PL 6-4045.

PERSONALS

CONTACT WANTED w/man who purchased wooden frame screens few weeks ago. PL 5-7521. L

THANK YOU from Mrs. Marston & myself to all of our friends for their many kindnesses. Their expressions of sympathy meant so much to us at this difficult time. SKIP MARSTON.

FOR SALE OR TRADE

SADDLE, child's pony-type, $40 or trade for large saddle. DA 3-1078. M

Mixed Chorus Blend Voices In "Messiah"

Two performances of Handel's "Messiah" herald the inspiration of Christmastide.

According to Commissioner Burt Bracher, the NRC Mixed Chorus will blend their voices with those of the Star of Creation Methodist Church on the evening of Sunday, November 9, at 7:15.

The chorale, to be given at Los Angeles' Trinity Methodist Church, 1201 South Flower, will feature as soloists soprano Joyce Smith, contralto Trudy Troy, tenor Robert Sage, and bass Don Ogren. Charles Nixon is group director.

This rendition encores at 7 p.m. Friday, December 12. Setting will be provided by the Church of the Latter Day Saints stake house (Mormon chapel) on 174th Street, west of Western.

Sportsters Roll To Impressive Desert Conquest

NRC wheelers sport 18 trophies from last month's Douglas SCC Desert Rallye IV. See photo Page 4.

The 24 clubs and 106 cars competing covered 300 miles in this annual event which signals the official opening of the Palm Springs season. Toting up their most substantial trophy haul, Norcrafter rallyists netted over one-third of the 51 awarded.

Collectors of the cactus-bedecked trophies were (driver and navigator, respectively) Gordon Madison, Don Black, 3rd over-all; Wayne Brown, Dee Travis, 5th over-all; Betty Enoch, C. K. Enoch, Karl McCready, Dave Conklin, Virg Herman, Ramona Christianson, 1st 3-car team; Ed Rawlinson, Ariel Rawlinson, best tyro; Paula Larsen, Harold Knopp, best time to brunch stop; Virg Herman, Ramona Christianson, best mixed double.

Two NRSCC cars entered the next day's slalom. Both emerged trophied—Hal Guess, with navigator Bert Johnson, 3rd in the under 1300-cc class; and Ann Nichols, spouse Bob navigating, 3rd in the sedans class.

day/night leagues

•

basketball

•

openings for teams and individuals

deadline—next week

Palladium Party Slated December 6—Gray Plays

Palladium rocks December 6. That's the night of Northrop's annual interdivisional Christmas party.

Jerry Gray and his "band of today" provide dancing wherewithal, spiced by vocalist Laura Carroll, who has recorded for the major companies. Gray's group recently racked up the record for the longest engagement in Palladium history.

To ensure continuous music from 9 p.m. to the wee hours, Jerry Gray's 14-man crew is backed intermissionwise by Eddie Truax and the Rhythmaires. And entertainment surprises are also on tap.

Available from clerks November 10 on, dance ducats are $1.50 each, including tax.

Reservations for dinner preceding the dance may be made by contacting Personnel Activities, extension 2784. Special consideration will be given to group parties and it is urged that these arrangements be made early.

NRC CAMPERS STAKE OUT FOR A BARBEQUE

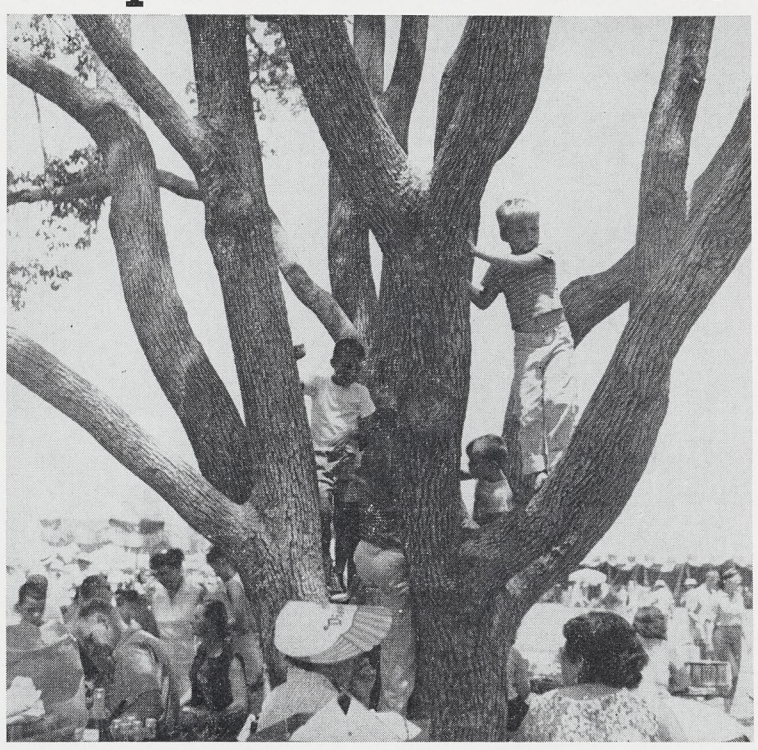
The stomach-tempting aroma of charcoaled steaks will flood Orange County's O'Neill Park Saturday, November 22.

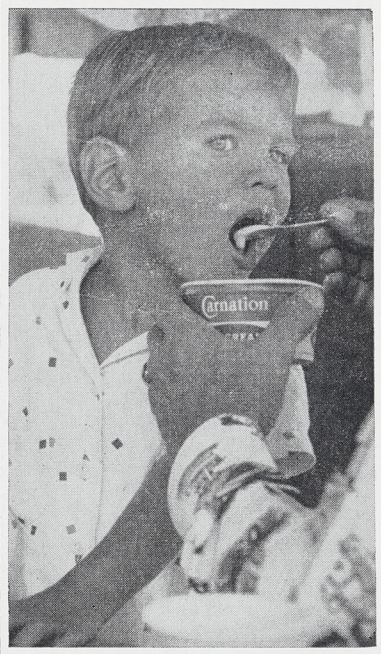
A barbeque is on the menu of the NRC Camping Club for that day, with dinner slated to be served at 3:30 p.m.

For this, the last scheduled campout of the year, barbequers have the option of driving back Saturday evening or staking out overnight.

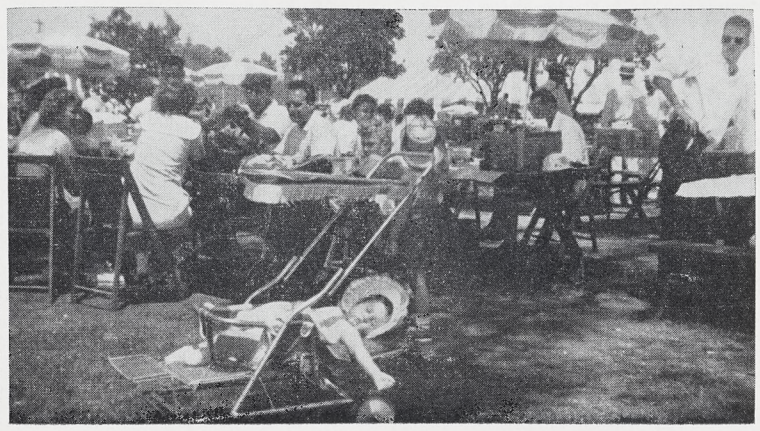
Tickets are $1.25 per dinner and must be obtained no later than November 20 at Personnel Activities. Steak-eaters should provide, in addition to their appetites, silverware and dishes.

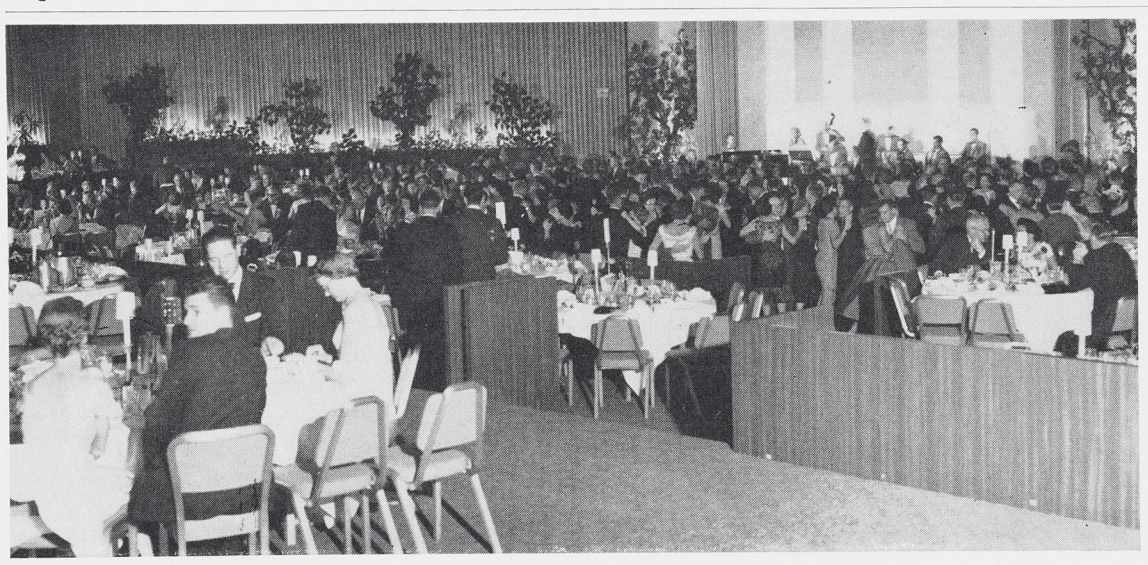
Snaps Click for Prizes





TOP FUNSTIVAL PIX—in the Funstival contest for amateur lensmen, these three photos have been adjudged as most expressive of picnic theme: above, 1st, J. B. Wallis, husband of Norcrafter Evelyn; left, 2nd, Fred Armstrong; below, 3rd, F. J. Ingraham. Close balloting gave a special honorable mention to John Valeska. Awards snapped up were Polaroid Land camera, Schwinn bicycle, and Kodak Pony camera. Runner-up Fred Armstrong had erred in expansively promising his two children that, should he win the bicycle, he'd pop for another. He did.

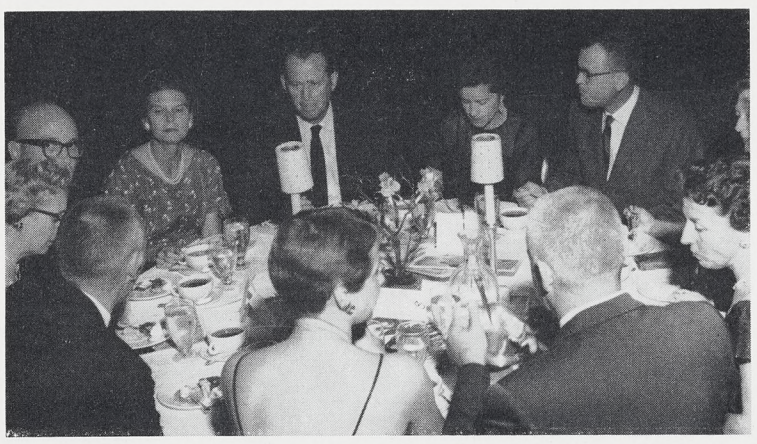




M-C Members, Fraus Whirl and Sup

BELLMEN—Displaying hidden talents, M-C men ring bells on cue to chime out melody. From left, Church Haenke, Welko Gasich, George Douglas, AF Auditor J. L. Neiswender, Dr. Ballhaus, Joe Bradford, Alan Kelso and Jim Ricketts.

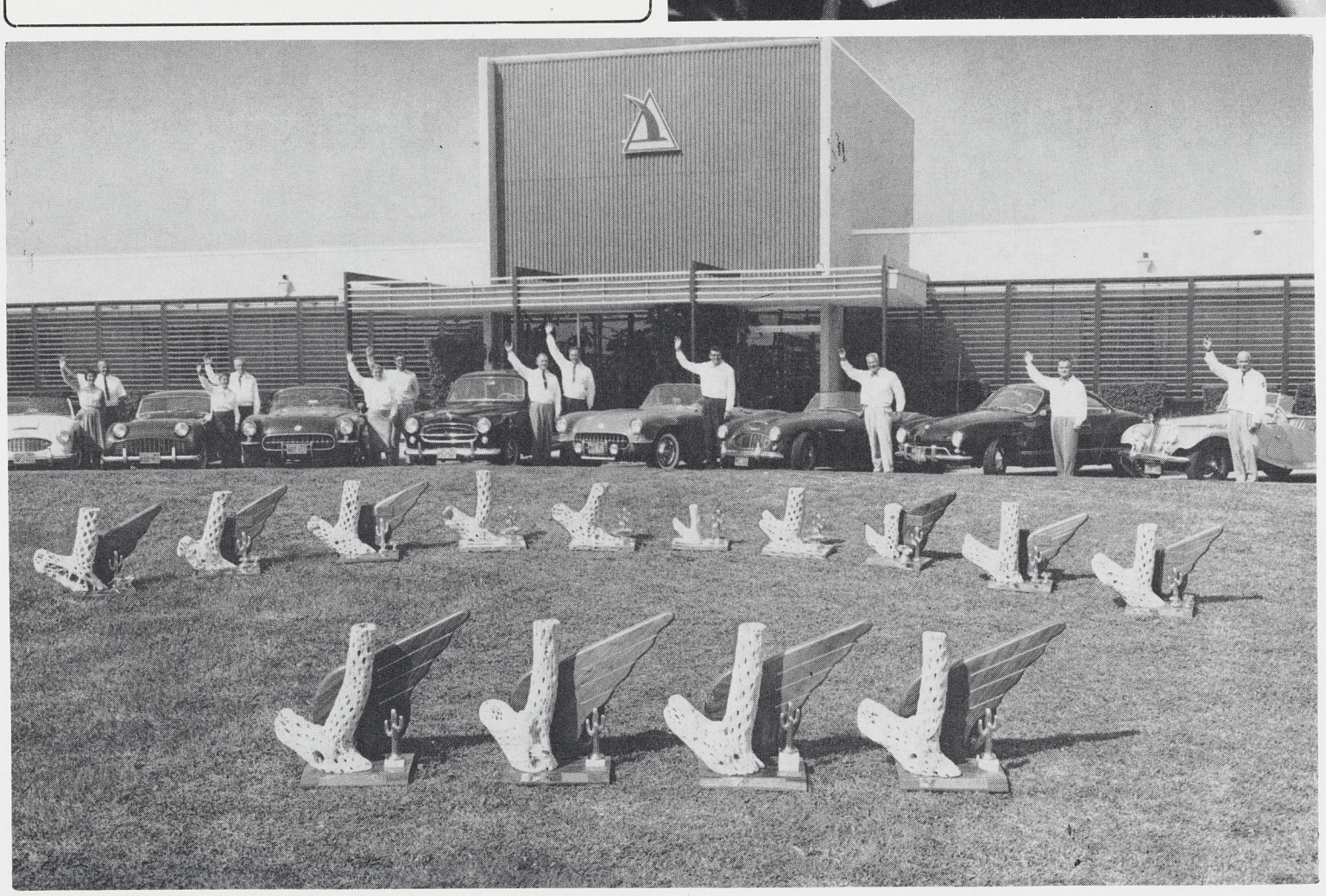
MANAGEMENT CLUBBERS HAVE BALL—Capacity couples, left, grace International Room of Beverly Hilton Hotel at the recent M-C annual dinner-dance. In early-evening scene below, Buck Nichols, ticket chairman, right, checks count while Elmer Noonan, treasurer, welcomes Fred Stevens and Tom Venator. Mrs. Noonan is in foreground.



DINERS' CIRCLE—Awaiting after-dinner coffee at Jack Hinchliffe's table are, counterclockwise from left, Mrs. Don McNeal, Mike and Mrs. Creamer, Dave and Mrs. Beck, Mrs. Hinchliffe, Arch and Mrs. Wallen, Bob and Mrs. Lloyd, Don McNeal. This gala was voted best yet.

Northrop News Pictorial

Day To Remember – SAC, Snarks



A SNARK TO MARK—When five crippled children from Omaha's Hattie B. Munroe Home were guested by Offutt AFB and SAC headquarters, Georgia Anderson, Omaha office, presented Mark Shelby and each of the others with Snark models. Boys toured base, flight line and SAC buildings.

CACTUS COLLECTORS — Fourteen of the eighteen trophies garnered by NRC Sports Car Club rallyists in Douglas SCC Desert Rallye IV front the dexterous drivers and navigators. From left, Ariel and Ed Rawlinson, Austin-Healey; Betty and C. K. Enoch, TR-2; Dee Travis, Wayne Brown, Corvette; Don Black, Gordon Madison, Peugeot; Karl McCready, Corvette; Virg Herman, Austin-Healey; Harold Knopp, Karmann-Ghia; Hal Guess, MG-TF. See Page 3.

NEW DUTIES ASSIGNED TO TWO NAI OFFICERS

Beverly Hills, California—Irving Roth, vice-president and assistant to the president, has been elected vice-president in charge of finance by the board of directors, according to President Whitley C. Collins.

Charles C. Cilley, who formerly headed the Company's Finance department, has been named Corporate treasurer and comptroller, Mr. Collins added.

Extension of Northrop's activities into new fields of defense work, notably electronics and missiles, has necessitated the broadening of the Company's management structure, Mr. Collins said.

Mr. Roth joined Northrop as assistant to the president in February 1956 after serving as chief of the Aviation Branch of the Office of the Secretary of Defense for five years. He was previously assistant director for budget, aviation and guided missiles, in the Pentagon office.

A recognized authority on aircraft fiscal matters, Mr. Roth represented the Department of Defense in reconstituting the Japanese aircraft industry after World War II and assisted in negotiating the bilateral agreement to build jet military aircraft in Japan.

Mr. Cilley joined Northrop in 1942 as supervisor of Reimbursement Accounting and progressed steadily in the Company's Finance department through the positions of assistant treasurer and treasurer.

He was assigned Corporate responsibility in February 1957 when Northrop's growth brought about the Company's realignment into the line Division structure.

GENERAL IRVINE—Lt. General C. S. Irvine, deputy chief of Staff, Materiel, paid afternoon visit to Northrop Division last week to view progress on T-38, N-156F. Here General Manager Dick Nolan and the General discuss production details on ATC's supersonic trainer.

T-38 TOUR—Northrop and Air Force officials, from left: Colonel H. T. Morris, AFPR, Major C. A. Edmonds, Air Force plant T-38 project officer; Stan Erbeck, Northrop T-38 project engineer; General Irvine, Mr. Nolan, Robert R. Miller, Corporate senior vice-president.

NORTHROP

NEWS BRIEFS

BUDGET FOR FIRST QUARTER—Treasurer Dan H. Hill reports that budgets for first quarter of 1958-59 on indirect labor and other burden items are hitting the target. "This showing is very gratifying," stated Mr. Hill. "This makes it evident that our Division efforts are continuing at all levels to achieve cost reduction. Without the teamwork of all departments, this good budget showing would be impossible."

PACE IN ENGINEERING—The PACE program which has resulted in outstanding success in Manufacturing and Finance departments is now operative in the Engineering department, it has been announced by Vice-president George Douglas. In commenting on the program, he stated, "We expect the very best results from a PACE measurement of our efforts of this department. It must be remembered that, since the termination of World War II, an impression has been prevalent that companies such as ours "hoard" engineering talent, whether or not in gainful pursuits. The PACE program is the best tool I know of to refute this impression. PACE program is the best tool I know of to refute this impression. PACE determination of Engineering group efforts and activities will be valid proof of the accomplishment and productivity of our scientific undertakings."

TWO FLIGHTS FOR SNARK, THIRD COMING UP—High-point in the Air Force Snark flight test program at Cape Canaveral was reached last week when one of the birds completed its second successful flight, was landed safely at the base, and now awaits preparation for the third flight down range. "Both prior flights of this missile were successful in launch, in mission, and landing," stated Vice-president George Douglas, Engineering. "Although there have been several Snarks that have successfully accomplished multiple launchings, missions, and landings—this is the first time that one of the birds has undergone two flights and is now ready for a third. This certainly indicates the fine capability and advanced missile knowhow of the Air Force men in Snark training at the Cape. It also speaks well for the durability and reliability of the big bird."

ARPA—Vice-president George Douglas, Engineering, commenting on ARPA—Advanced Research Projects Agency is an organization of top significance to the aircraft and missile industry. As the name implies, ARPA constitutes an administrative body to manage all upcoming highly advanced technical projects for the military. Following ARPA evaluation, these projects will be handled by the appropriate military agency. Military projects will also, of course, be handled by the appropriate military agency . . . Northrop Aircraft, Inc., at the invitation of ARPA, took occasion on 24 October to present our full capability picture. Northrop Division's emphasis at this presentation was on our work in nuclear aircraft, nuclear rockets, and space satellite programs.

CHANGE IN NAME—Shareholders will be asked to approve changing the name of the Company from "Northrop Aircraft, Inc.," to "Northrop Corporation" at the annual shareholders meeting 9 December. President Whitley C. Collins stated, "The present name dates from 1939, when the Company's business was confined to the design, manufacture, and sale of aircraft. Now our field of activity has broadened in many ways, and it will continue to be extended in the coming years. It is felt that the name 'Northrop Corporation' is less restrictive and better suited to our future operations."

PRODUCT PLANNING REPORT NO. 2 — Northrop Division Management Planning Council meets today, 19 November, for consideration of Product Planning Report No. 2, it has been announced by Vice-president and General Manager Dick Nolan. The agenda includes discussion of the need to assess, in tangible terms, potential study, research, development, and product areas of space, boundary layer control, air-to-surface missile, and projects keyed to the limited war concept. Agenda also includes discussion of methods in evaluation, selection, and programming of future products in the production areas upon which to concentrate technical and financial resources.

Northrop News

NORTHROP DIVISION

Issued Every Two Weeks at Northrop Field, Hawthorne, Calif. Wednesday, November 19, 1958

YULE SEASON TO BE USHERED IN WITH GIANT PALLADIUM PARTY

Saturday, December 6, is Northrop's night to paint the Palladium red . . . and green.

As reported in the November 5 *Northrop News*, Christmas partygoers will be pairing off to the danceable music of Jerry Gray's "band of today." The lovely Laura Carroll chanteuses it for this annual interdivisional gala.

Eddie Truax and the Rythymaires take over the bandstand on the breaks so that the light-footed may dance continuously from 9 p.m. to past the witching hour. Those departments who've been musicked by Eddie's group are well aware of their toe-tapping brand of entertainment.

VOCALIST — Lovely Laura Carroll provides vocal interpretation for music of Jerry Gray at Northrop's upcoming Palladium party.

Tickets are now available from clerks at $1.50 per partyer, including tax.

Dinner reservations from 7:30 on may be made by contacting Personnel Activities, extension 2784. Group parties will receive special consideration.

THANKSGIVING

Turkey Day — Thursday, November 27—is a paid holiday for all Norcrafters. All fulltime personnel not on leave of absence will receive eight hours' straight-time pay for the day. Parttime Norcrafters will be paid based on their regular daily schedule.

The following day, Friday, November 28, is a regularly scheduled workday.

AID and Nor-AID Norcrafter Funds Beat Former Years

The AID and Nor-AID financial report tabulated below shows a substantial increase in contributions over previous 12-month periods.

As reported in the September 10 *Northrop News*, actual receipts for the Hawthorne payroll, which includes Nortronics Plant Two, Corporate offices, and all Northrop Division facilities with the exception of Florida, bettered the estimate by 11.6 per cent.

Nor-AID Administrator Mal Mountain pointed out that because of accounting procedures, moneys earned in any given fiscal year are not necessarily paid to the causes, including Nor-AID, within the same period. The difference is received during the next period.

AID $ $ $ Report

	Years Ending 31 July 1956	1957	1958	August 1958
Total Contributions by NAI Personnel to AID and Nor-AID	$229,778.73	$262,922.79	$300,735.11	$19,816.12
Total Received from Nor-AID	39,602.18	67,755.47	60,233.39	193.95
Number of Nor-AID Cases	123	234	300	13
Amount Granted to Personnel	20,800.37	41,476.73	64,006.12	2,475.45
Balance of Money on Hand at 31 July (Bank Balance)	18,791.98	44,958.28	41,174.73	38,893.23
Average Grant	169.10	177.25	213.35	190.42

MANAGEMENT COUNCIL—The seven men, headed by Vice-president and General Manager Dick Nolan, guide destinies of Northrop Division. At head of table, Mr. Nolan, and clockwise: George Gore, Corporation secretary and Division counsel; George Douglas, vice-president, Engineering; Dan H. Hill, treasurer; Vice-presidents Al Morgan, Contracts, Bob Lloyd, Manufacturing, and John Alison, Customer Relations. Average age of council members is 46 years. Management Council meeting, held every Monday, is efficient communications discussion.

Management Council--Their Monday Meeting is Tops in Communications

Many Norcrafters have asked the question—what about the Management Council? What does it do? Is it an operating committee? Does it render decisions?

Who attends?

Will it help us do a better job if we know more about the council and its work?

What do they talk about?

Why are their deliberations so important?

To tell this story, *Northrop News* Editor Charles Bradford interviewed seven men: Vice-president and General Manager Dick Nolan; Corporation Secretary and General Counsel George Gore; Treasurer Dan Hill; and Vice-presidents Al Morgan, Contracts; John Alison, Custom Relations; George Douglas, Engineering; Bob Lloyd, Manufacturing.

And this answers the first question—for these men constitute the membership of the Management Council. They are the top officers of the Division.

DEFINITELY YES

The next question—will it help us do a better job—definitely yes.

In a statement to the *Northrop News* two issues ago, General Manager Nolan said—"The men on the line and at the drawing boards need most of all clear, comprehensive knowledge of management goals and objectives. People are helping most when communications are so perfect that each person clearly understands why."

The questions, who do they talk about and is it important to us, can be answered best by saying that the council serves as the key to Northrop Division communications. Two-way communications—up the line and down the line. Here where Company officers conduct coats-off discussions on Division affairs—from multi-million-dollar contracts to personnel parking — communications reach the very center of decisive response.

Although the council is not an operative body and does not meet for the specific purpose of making decisions, when the members leave the meeting, they *know* the state of affairs at Northrop Division. And with facts in, action is not far behind.

General Manager Nolan puts it this way, "A prime requirement to the success of industrial enterprise is that communications must be complete and free to move both ways—up and down. One is as important as the other.

"I like to feel that the council sets the example for the rest of the Division in this respect. We sit down and we talk things out frankly and candidly. And it's everybody's job to keep the flow of reliable information open and unobstructed."

NO ROAD BLOCKS

Mr. Nolan has three rules for the council meetings.

One—complete objectivity.

Two—teamwork, constructive attitudes, and the *will* to get the job done.

Three—all road blocks cleared by the end of the meeting so that decisions will be made immediately.

Specifically, on a given day, what would be the subjects at a Management Council meeting?

Wage patterns. Retirement benefits. Progress—in all departments. Schedules. Trouble areas. Policy. Customer needs. Test programs. Holiday schedules. Government decisions on the product.

Norcrafters would like to see the Management Council in action.

A word picture with comments from Company officers follows:

The time is 1:30 p.m. *every* Monday.

The place is General Manager Nolan's office in Plant Four.

Mr. Nolan presides.

The meeting starts promptly.

Old business, one of the first things on the agenda in a typical meeting, is of small consequence and there is a reason.

TEST OF A MEETING

In discussing the council's way of doing things, your editor asked Mr. Gore if this was significant.

"Come to think of it." stated Mr. Gore, "it is significant. It is because things get cleared away in Management Council meetings. I mean final decisions by the general manager or by department heads can be reached. This is the test of a meeting. Meetings are held to get things done. Every piece of old business is a job that didn't get finished."

The reports from each department proceed.

Mr. Gore reports on legal, leases, real estate, patents, industrial relations, protection and security.

"I like to attend these meetings," he said. "I try to be ready. During the week, I note things that should be communicated. As Dick says, if I have a problem, I find a constructive atmosphere."

NEWEST OF THE NEW

George Douglas, vice-president, Engineering, reports on engineering matters, developments, research progress, test results, state of the engineering art.

It is from this area that the newest of the new comes.

"To keep abreast of the engineering advances in this day is a job in itself," said Mr. Douglas. "There just doesn't seem to be any limit or any fixed goal. It's a business of keeping your feet on the ground with good business practices while your head has to be in the sky, and I mean literally in the sky. It's my job and to my best interests to keep the council fully informed and sensitive to the engineering direction of the Division. The big weapon systems alone would keep you talking for hours."

Division Treasurer Dan H. Hill reports on all things financial and where George Douglas generally starts communications downstream, Mr. Hill usually brings upstream information. Profit information. Budget information.

"The Management Council meeting is the springboard communications meeting in the Northrop Division," he stated. "There is no element at Northrop more factual and less subject to intuition than finance, but the Management Council does have a way of letting you see ahead. Decisions are just that much better.

GOOD NEWS

"A finance man is never optimistic and, therefore, what he has to say can never be colored. If we are over-budget, I have to say so. If our targets are in danger, I have to say so. When we make our budgets, when we make our targets, this is not necessarily exciting. We are supposed to do this.

"This is why my reports to the council are not the good-news type. The report on Northrop's record earnings for 1957-58, however, was good news."

Vice-president Al Morgan also says that the Management Council meeting is the most important function at Northrop.

"You bring information of general interest," he said. "You also bring your problems for assists in solving them. I go to the meeting with my particular viewpoint of course. As a contracts man, I am always thinking of the contracts my people have negotiated. Many of these contracts have incentive clauses. As the figures come in, I can see where we are weak and where we are strong. I am probably the chief bell-ringer in the meeting. When weaknesses show up in costs, schedules, quality—if we don't improve, no incentive. No incentive, and Dan's earning reports would have been the other way.

"I find that in the Management Council, as in any other meeting, you have to have the ability to present your problem — if you have one—to insure that your fellow committee members are sensitive to it. No one is going to do your work for you. If you see a lack of interest, the next thing is a contract loss."

TEAM WORK

Vice-president Bob Lloyd, newest member of the Management Council, reports on manufacturing schedules, workloads, facility utilization, workmanship, and this area also includes materiel, raw stock, inventories, availability of materials, market trends. "For the past several months," stated Mr. Lloyd, "we have a new element in the picture —manufacturing capability. Dick Nolan stated his views on this subject in his recent *Northrop News* interview. 'Manufacturing people can't wait for new designs before perfecting new methods,' Dick said. 'We have to be ready and waiting for Engineering.'

"This is true, I find the Management Council more and more interested in Manufacturing R & D programs. George Douglas, especially, keeps tuned in. If we have a capability, this means that he can let his boys go. I am the newest member of the council and I would like to say something. The thing that impresses me is council teamwork.

Vice-president John Alison reports all factors that have to do with customer relations. This department, along with engineering, must keep ahead—far ahead—of what the customer will need in the way of aircraft, missile, and space hardware. "The council meeting performs a distinctive management service to this Company," he stated. "Actually, the council meeting serves as a high-level 'state-of-the-nation' discussion on Company affairs.

BEST DAY

"It is held on Monday, the best time to prepare for the business of the week. We meet and we speak each other's language. Law, products, engineering, finance—all talk the same language. We are busy people. If we have something to say and it is constructive and helpful, we say it. If we don't have anything to say, we listen. You would be surprised how much can be accomplished by listening."

The Northrop Division Management Council, wide in scope, yet definite and quiet in purpose, has a viewpoint that is focused narrowly on a single target—. This target is the success of the Northrop Division.

Northrop News

Vol. 17 No. 4

Northrop Field, Hawthorne, Calif.

A NORTHROP AIRCRAFT INC. PUBLICATION

Published every other Wednesday
PUBLIC RELATIONS
NORTHROP DIVISION

CHARLES BARR, Director

CHARLES BRADFORD, Editor

Permission to republish material with credit to the Northrop News will be granted. News office phones — 2456, 2457. Outside lines—OR 8-9111, OS 5-4611.

BBSF Classified Ads

BBSF classified ad service is provided free of charge to all Norcrafters.

Items advertised in "For Sale" and "For Sale or Trade" categories are limited to a maximum of $50. Price must be stated.

Box numbers will be provided for Norcrafters who do not have home phones or who do not wish calls. Replies to box numbers are to be in writing and sent to the News Office.

Ads for agencies, commercial enterprises and private businesses are not accepted.

Deadline is noon Monday, nine days before publication.

FOR SALE

REFRIGERATOR, 1949 GE, $50. FR 5-8794. A

HOUSEHOLD FURNISHINGS, couch, green foam rubber, $30; child's desk, $4; heater, white bathroom-type, $2. DA 4-6748. A

BICYCLE, Schwinn World Racer 26", $12. HA 1-3208. A

COFFEE URN, electric, 24-cup, chrome, $10. PL 4-8957. A

CAR PARTS, 1956-1936 Plymouth-Dodge 6s; distributor, Mallory dual-point, $10; headers, Fenton dual-exhaust, $5. FR 9-9616. A

TODDLER'S EQUIPMENT, potty-chair, blue plastic, adjustable, $2. Box 402. A

RANGE, Wedgewood gas, $20. PL 1-0359. A

CRIB, w/mattress, $16. OS 5-9740. A

COUCH, convertible-type, charcoal w/ matching chair, $50. FR 8-5328. A

WASHER, GE automatic, new sealed drive unit, $50. FR 5-0813. A

BED, double-size, innerspring mattress, $40. TE 2-0578. A

OIL, Pennzoil 30 SAE, 24 1-qt cans, $7.50. PL 5-8983. A

BICYCLE, girl's 24", $20. FR 5-9648. A

KITTEN, Siamese sealpoint, 10-wk-old female, $10. OR 2-3801. A

FIREPLACE SCREEN, mesh-curtain-type, $10. FR 5-0867. A

POWER MOWER, Firestone, 3 yr old, overhauled & sharpened, new basket, $45. DA 6-8992. A

WASHER, Bendix automatic, $20. VE 9-7378. A

PROJECTOR, Brownie 500, 2 mo old, $50. OS 5-1057. A

SKIS, Heads, w/bindings, $35. FR 5-2074. A

UNDERWATER CAMERA, case, $10. FR 8-2609. A

POWER MOWER, rotary-type, $50. DA 4-3845. A

FURNITURE, modern, limed oak; end tables, 3; bench, 5'; table lamps, 2; floor lamp; $50. PL 6-0015. A

FURNITURE, kitchen table, red Formica, 24"x30"x31", w/2 mahogany & red chairs, $35; end tables, 2, mahogany, $15. TO 1-3108. A

CUPBOARD, portable camp-type, 2'x3'x 4', w/ice box, $12. FR 9-4653. A

WARDROBE, unfinished plywood, 6'x42", $30. ST 9-2534. A

CAMERA, Argus 35-mm, flash, case, $20. PL 5-2723. A

BED, double-size, innerspring mattress, $25. DA 4-4750.

LAMPS, 2, early American table-type, cream-colored coffee-grinder design, maple bases, ruffled shades, cost $75, $28. PL 6-5900. A

SWIMMING POOL EQUIPMENT, vacuum cleaner, $40; pH test kit, $3; thermometer, chrome, $6. DA 3-3453. A

MASSAGER, Gilbert, cost $90, $50. FR 5-8847. A

SHOTGUN, J. C. Higgins 16-gage, bolt action, full choke, $15. PL 6-4642. A

FORD, 1930 Model A, w/1939 V8-60 engine, $35. OS 5-2159. A

FOR SALE

CEDAR CHEST, Lane bird's-eye maple, $40. PL 8-7138. A

ENGINE, Ford 60, water-cooled manifold & pan, $50. DA 9-5584. A

PUPS, 2, Dalmation, champion sire, $25 & $20. DA 4-5653. A

BEDROOM SET, blonde, $40. DA 4-0493.

TRAIN EQUIPMENT, Lionel, diesel engine, 5 cars & mechanical milk-loading car, layout board w/mechanical station, 2 switches, xformer, $50. AX 1-9010. A

MOVIE CAMERA, De Jur Citation 8-mm, 2 yr old, $45. OR 1-3645. A

BICYCLE, Schwinn girl's 26", $22.50. FA 8-3306. A

TRAIN EQUIPMENT, HO-gage, tracks, engine, $10. FR 2-4492. A

CHILD'S EQUIPMENT, hi-chair, $10; potty-chair, $3; bathinette, $5; diaper pail, $1.50; sterilizer, bottles, $2; insulated bag, $1.50. FR 4-4589. A

WANTED TO BUY

TRANSPORTATION CAR. FR 9-9616. B

HOUSEHOLD FURNISHINGS, table, blonde console-type, opens to seat 14; spinet; table, chrome pedestal-type. DA 4-6748. B

BICYCLE, boy's 20". DA 6-3282. B

STORAGE CABINET, large metal. OR 4-0944. B

FORD, 1949 or 1951 sedan, overdrive. GL 4-8949. B

MAGAZINE, *Pageant*, October 1958, all pages intact. Box 401. B

CONSTRUCTION EQUIPMENT, cement mixer, small; wheelbarrow. FR 5-8804. B

AUTOHARP. FR 5-4763. B

FOR TRADE

TRAIN EQUIPMENT, HO-gage, trade for 3- or 4-speed record changer, preferably Garrard. GE 1-4233. C

TWIN BEDS, foam mattresses, trade for ¾ stationary bed. OR 4-0944. C

SCOPE, Lyman 4X, mount for large caliber rifle, trade for transportation car, preferably Chevrolet. OS 5-2159. C

CHILD CARE OFFERED

CHILD CARE, licensed, near Northrop, lunch, fenced yard, references. OS 5-7088. G

PERSONALS

DRESSMAKING, alterations, tailoring, Wilmington. EA 2-2579. L

WITNESSES WANTED

Persons who witnessed a head-on collision on Prairie Avenue in front of the Nortronics parking lot entrance October 20 at 4:20 p.m. are asked to call Lynn Jones, extension 2179.

Any information would be appreciated.

Keglers Aim for Slot in Christmas Holiday Meet

Body English and toppling tenpins will be much in evidence during the Sixth Annual NRC Christmas Bowling Tourney.

Slated for the weekend in Northrop's yearend holiday, December 26, 27 and 28, the tournament rolls at Roselanes, Rosecrans and Gramercy Place.

Events have been scheduled for both men and women, with NRC awards, alley trophies and prize money on the line.

Official rules and regulations, together with entry forms, are available at all Personnel Activities offices. Entry fee is $2.50 per person per event.

Scheduling is on a first-come first-reserved basis and no entries will be accepted after Saturday, November 29.

DOLLS 'N DOLLS—Dressing dolls for Christmas at a noontime Yukon Building sewing bee are, from left, Jean Cortese, Carol Sanko, Elaine Tompkins, Rosalie Peterson and Eleanor Markert. Dolls for the annual contest may still be obtained at any Personnel Activities office. Deadline for completing costumes is December 1. After the judging, NRC and SAC join hands in Christmas-gifting dolls.

BEACHCOMBERS BALL UNDER THE JOLLY ROGER

A skull-and-bones pennon flies from the NRC Boat Club mast. Freebooters and privateers rendezvous at this Saturday's annual Beachcombers Ball. Scene is the jolly ship NRC Clubhouse.

Tickets at $1.50 per person, including tax, may be obtained at Personnel Activities.

Next Stop Mars for NRC Astronomy Club Via GP Planetarium

Earthmen land on Mars.

The NRC Astronomy Club will embark en masse via the Griffith Park planetarium showing, "A Trip to Mars."

Slated for Monday, November 24, at 7:30 p.m., the "interplanetary travelers" will meet at the observatory.

RIDES WANTED

7:00 a.m. — 3:45 p.m.

(Zone 9)
INGLEWOOD AVE. & 182nd ST., Redondo Beach. (Desire car pool.) RAMONA CHANNING (5351-16037, ext. 2155). FR 9-1127. 2-9

(Zone 10)
AVIATION & MANHATTAN BEACH BLVD., Manhattan Beach. DONNA McFARLIN (5355-48492, ext. 1912). OR 4-5391.

CLARK LANE & PHELAN LANE, Redondo Beach. (Consider car pool.) E. M. SEEL (5233-16007, ext. 1382). FR 9-6197. 2-10

(Zone 13)
SEPULVEDA & WASHINGTON, Culver City. H. L. BENNETT (5338-16561, ext. 2470). VE 7-4237. 2-13

7:30 a.m. — 4:15 p.m.

(Zone 6)
CRENSHAW & EL SEGUNDO BLVD., Hawthorne. MARGIE BROWN (8800-56510, ext. 663). OS 5-2570. 3-6

(Zone 7)
FIGUEROA & 190th ST., Gardena. LOIS JACKSON (8800-48642, ext. 663). DA 4-9539.

(Zone 9)
HAWTHORNE BLVD. & SPENCER, Torrance. ESTELLE PALSON (8913-54826, ext. 1213). 3-9

(Zone 13)
CENTINELA & FREEMAN, Inalewood. BETTY FULLER (9420-55975, ext. 1416). OR 3-2212. 3-13

8:00 a.m. — 4:45 p.m.

(Zone 1)
SANTA MONICA BLVD. & WESTERN, Hollywood. (Consider car pool; via Wilton, Western, Crenshaw.) HAROLD GREER (3242-53657, ext. 2775). HO 4-6094.

(Zone 4)
SAN PEDRO ST. & 118th ST., Los Angeles. J. C. BREWER (3149-16303, ext. 1838). PL 5-8983. 5-4

(Zone 5)
INVERNESS & SILVER FOX, Los Alamitos. (Established car pool.) D. A. BUSHELL (3547-30714, ext. 1947). GE 1-7057. 5-5

EUCLID & KATELLA, Anaheim. (Consider car pool—Tuesday, Wednesday & Friday only.) FRED MAGIDSON (3254-44141, ext. 1257). PR 4-6946. 5-5

BROOKHURST & ORANGETHORPE, Fullerton. (Consider car pool.) DAVID KESSLER (3000-53712, ext. 1266). LA 5-4555. 5-5

BROOKHURST & LINCOLN, Anaheim. (Desire car pool.) MORTON SETZER (3160-30661, ext. 2695). PR 4-3503. 5-5

RIDES WANTED

8:00 a.m. — 4:45 p.m.

(Zone 5)
LAMPSON & WEST, Garden Grove. (Desire car pool). A. B. RYAN (3142-32958, ext. 2022). JE 7-2555. 5-5

(Zone 7)
COMPTON BLVD. & VAN NESS, Gardena. M. J. FAIRBANKS (4500-26434, ext. 2784). OR 2-1982. 5-7

4:45 p.m. — 1:15 a.m.

(Zone 2)
AVALON & 46th ST., Los Angeles. S. L. RHODEN (5503-55544, ext. 2681). AD 1-9946. 8-2

RIDES OFFERED

8:00 a.m. — 4:45 p.m.

(Zone 1)
SANTA MONICA BLVD. & WESTERN, Hollywood. (Consider car pool; via Wilton, Western, Crenshaw.) HAROLD GREER (3242-53657, ext. 2775). HO 4-6094. 15-1

(Zone 5)
EUCLID & KATELLA, Anaheim. (Consider car pool—Tuesday, Wednesday & Friday only.) FRED MAGIDSON (3254-44141, ext. 1257). PR 4-6946. 15-5

BROOKHURST & ORANGETHORPE, Fullerton. (Consider car pool.) DAVID KESSLER (3000-53712, ext. 1266). LA 5-4555. 15-5

BROOKHURST & LINCOLN, Anaheim. (Desire car pool.) MORTON SETZER (3160-30661, ext. 2695). PR 4-3503 15-5

LAMPSON & WEST, Garden Grove. (Desire car pool). A. B. RYAN (3142-32958, ext. 2022). JE 7-2555. 15-5

CHAPMAN & KATELLA, Garden Grove. R. H. BENTON (5520-20687, ext. 1809). JE 4-5553. 12-5

(Zone 9)
INGLEWOOD AVE. & 182nd ST., Redondo Beach. (Desire car pool.) RAMONA CHANNING (5351-16037, ext. 2155). FR 9-1127. 12-9

(Zone 10)
CLARK LANE & PHELAN LANE, Redondo Beach. (Consider car pool.) E. M. SEEL (5233-16007, ext. 1382). FR 9-6197. 12-10

8:00 a.m. — 4:45 p.m.

(Zone 5)
INVERNESS & SILVER FOX, Los Alamitos. (Established car pool.) D. A. BUSHELL (3547-30714, ext. 1947). GE 1-7057. 15-5

(Zone 10)
INGLEWOOD AVE. & 134th ST., Hawthorne. P. F. CHRISTOPHER (3533-31255, ext. 2261). 15-10

NRC Good Time Table for December

For enrollment or information on activities listed below, call or contact Personnel Activities, Plant One, 2784. All clubs meet at NRC Clubhouse unless otherwise noted.

ARCHERY (days), Wes Williams
No December meetings.

ARCHERY (nights), Paul Randolph
Meet Wednesdays, 12:15 p.m.

ART CLUB (days), Forrest Ayrest
Meet in Annex Thursdays, 7 p.m. Models furnished by NRC. Sculpture classes Wednesdays, 7:30 p.m.

ASTRONOMY (days), Jim Stowe
Meet 2nd & 4th Mondays, 7:30 p.m.

BASKETBALL, George Forbes, jr.
League play at Leuzinger Hi Mondays & Thursdays.

BIBLE STUDY, Roy Stahl
Plant 1—Daily, 11:30-12:15, Tool Design Bldg; 11-11:45, 5566 Conf. Room.
Plant II—Mondays & Thursdays, 12-12:45, Conf. Room 2.
Eng. Center—Daily, 12-12:45, Reliability Conf. Room.

BOAT CLUB, Ken Payne
Meet 1st Wednesdays, 7:30 p.m. Water Ski Club (days) meets 3rd Thursdays, 7:30 p.m.

BOWLING (days), Dave Carney

BOWLING (nights), Charlie George
Christmas Tournament at Roselanes December 26-28.

BOY SCOUTS, Stan Morris
Sea Scouts, Intermediates, Cub Scouts. All Norcrafter boys welcome.

CAMERA CLUB (days), Fred Armstrong
Meet 1st, 3rd & last Wednesdays, 7:30 p.m.

CAMERA CLUB (nights), John Newman
No December meetings.

CAMPING CLUB, Fred Brant
Meet 1st Mondays.

CHESS CLUB, Bill Henderson

GEM & MINERAL CLUB (days), Ray Cole
No December meeting. Christmas party December 12.

GOLF (days), Ted Deguisne

GOLF (nights), Russ Munsen
Christmas Tournament at Lakewood & Western December 29-30.

GUN CLUB (days), Robert Raines
Meet 3rd Wednesdays, 7:30 p.m. Pistol shoot at Torrance December 14, 2 p.m.

MIXED CHORUS, Burt Bracher
Meet Tuesdays, 7:30 p.m. "Messiah" at Latter Day Saints stake house, Torrance, December 12.

MODEL RAILROAD, Jack Wilson
Meet in Annex Wednesdays, 7-10 p.m. Visitors welcome. Need electricians, carpenters & scenic artists to help with new layout.

ORGAN CLUB, Ted Childs

PHILATELIC CLUB, Eugene Richardson
Meet 2nd & 4th Mondays, 7 p.m.

RADIO CLUB (days), Andy Dolak
Meet last Thursdays, 7:30 p.m. Radio code class meets Wednesdays, 7:30 p.m. NRC's station is W6VPZ.

RADIO CLUB (nights), Merwin McGrew
Meet last Thursdays, 1:30 p.m.

SKEET CLUB, Dan Kawashima
Meet alternate Saturdays at Long Beach Dominguez Gun Club on Artesia Blvd., 10:30 a.m.

SKI CLUB, Chuck Morse
Meet 2nd & 4th Wednesdays, 7:30 p.m. Mammoth trip December 26-30.

SKINDIVING (days), Ralph Gonzales
Meet 3rd Wednesdays, 7:30 p.m.

SKINDIVING (nights), Lillian Kemble
Meet 3rd Wednesdays, 1 p.m.

SPORTS CAR CLUB, Jack Kirkpatrick
Meet 2nd Thursdays, 7:30 p.m.

SQUARE DANCING, George Sanborn
Beginners' class at Bret Harte Jr. Hi Fridays, 8-11 p.m.

SURF FISHING, John Pawlicki
Meet 1st Tuesdays, 7:30 p.m.

TABLE TENNIS, Robert Burke
New league after Christmas.

TENNIS, Ed Hummel
Practice & instruction at El Camino Saturdays, 10 a.m.

TOASTMASTERS 212 (days), John Walker
Meet at Western Avenue Country Club Thursdays, 6:30 p.m.

TOASTMASTERS 1398 (nights), Verne White
Meet at Western Avenue Country Club Thursdays, 12:15 p.m.

TOASTMASTERS 2583 (days), Howard Cornelius
Meet at Kim's Restaurant Mondays, 6:15 p.m.

FOR THE LADIES

BOWLING (days)

BOWLING (nights), Mary Mimnaugh
Christmas Tournament at Roselanes December 26-28.

GIRL SCOUTS, Dallas Vasquez
Mariners, Intermediates, Brownies. All Norcrafter girls welcome.

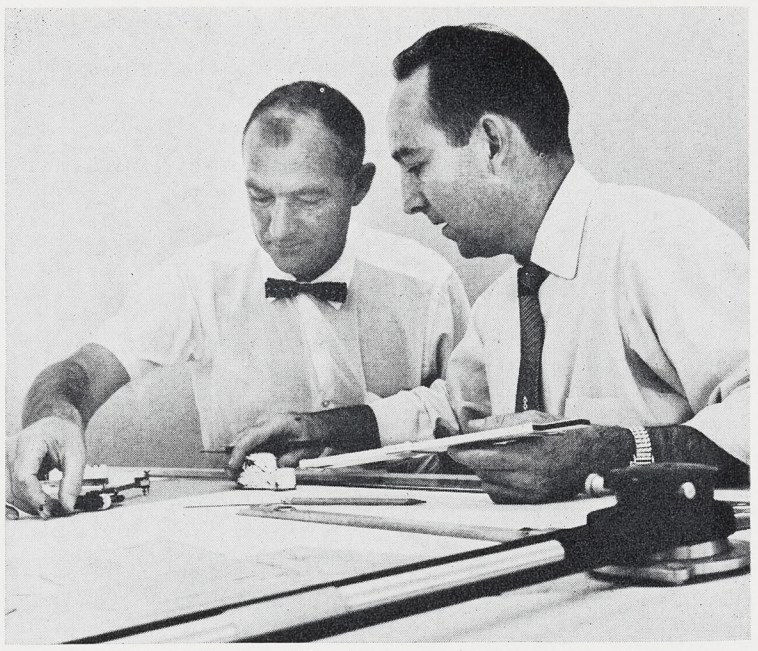
TOASTMISTRESS, Marge Gates
Meet in NRC Clubhouse Board Room 1st & 3rd Thursdays, 7 p.m.

Northrop News Pictorial

ON A SMALL SCALE—Hawthorne Postmaster Arthur White shows John B. Clark, director, Industrial Relations, and Jim Wedworth, Hawthorne mayor, a portable scale used in the early 1900's by rural carriers. This antique was on display at Hawthorne post office's recent open house.

TOSSING OUT A GOOD LINE—Newly elected commissioner of the NRC Boat Club, Ken Payne, skippers the bonny KSAK. As his first official function, he invites all to Saturday night's Beachcombers Ball. See Page 3 for story.

I SHOT AN ARROW—Nick Linardos, Advanced Design, was aiming at the NRC trophy for the season's first archer to bag a deer. And he hit the bull's-eye. For this 100-pound buck, Nick's fifth Robin-Hood style, he used 55-pound bow and aluminum-shaft arrow.

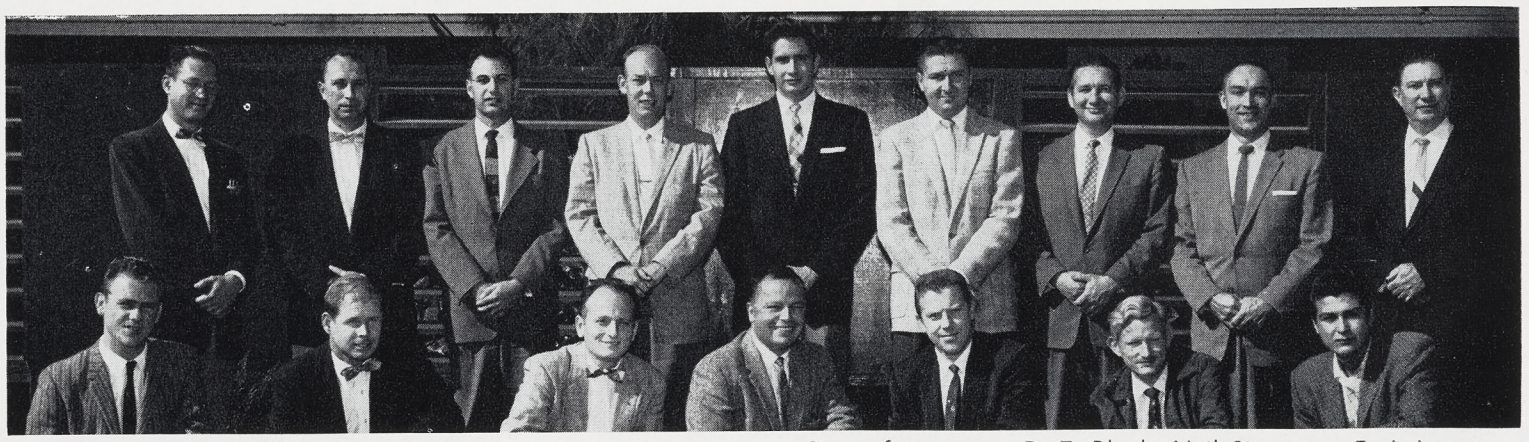


LOOKING AHEAD—Bill Schmitz and Don Heinze, Weapon Systems Design, put heads together on configuration studies. From Engineering's Advanced Design boards come the outlines of tomorrow's systems, tomorrow's concepts.

DRAWING AHEAD—Gene Tucker is one of the Advance Design Proposals staff illustrators who render engineers' designs into more formal outlines. Flexibility of techniques and tools hallmarks Gene's drawings.

FLORIDA INSTALLS—Cape Canaveral Norcrafters and wives hold a party at the Belcelona, install incoming NRC officers, congratulate outgoing stalwarts for a job well done. From left: R. J. Maguire, Golf; B. S. McCuiston, secretary; A. M. (Mort) Mair, Skindiving; R. J. Kotowski, retiring vice-president; K. M. Dearstyne, Glee Club; W. W. (Woody) Thomas, incoming vice-president; W. E. Schlesinger, Dance Club; and R. W. Harrison, NRC coordinator, Industrial Relations. John B. Clark was featured speaker at the Inaugural Ball and presented highlights of Dick Nolan interview.

MAN VS. MARLIN—After a battle of two hours and seven minutes, Ed Kraft subdued this 133.5-pound marlin — the biggest Northrop fish of the year—and thus landed the NRC trophy for this feat. The scene of the struggle was the Seaboney out of San Diego.



PROUD NORCRAFTERS—Division Airborne Systems engineers attending Snark Mark I guidance system seminar, from left: back row—Instructor P. W. Wurzer, L .B. Richman, Vic Barsam, J. A. Eckert, R. B. Scholes, K. W. Ohlgart, J. R. Hinds, N. W. Burris, Training Supervisor Clarence Stine; front row—D. T. Black, Neil Simmons, F. J. Lucca, Ed Veevaert, John Brewer, W. F. Lewis, and Ed Acuna. Classes were presented in Transportation building by Industrial Training Administration, Tom Darden, chief. Mark I systems and operational concepts were discussed.

T-38 PRODUCTION CONTRACT

Northrop News
NORTHROP DIVISION

Issued Every Two Weeks at Northrop Field, Hawthorne, Calif. Wednesday, December 3, 1958

AIR MATERIEL COMMAND ANNOUNCES SUPERSONIC TRAINER ORDER

The U. S. Air Force has awarded Northrop the first production contract for T-38A supersonic trainers. The $16,926,000 order was announced by Air Materiel Command officials.

The T-38A is the production model of the lightweight, twin-jet basic trainer developed by Northrop Division to bridge the gap between primary trainers and high-performance combat aircraft in the 1960-70 decade. It is programmed for use by the Air Training Command.

Previous contracts, covering development of the T-38, included production of two prototypes and four service test airplanes.

The first T-38 test flight is expected by the end of December.

Capable of speed and altitude in the Century Series fighter performance class, the T-38 was designed to take advantage of the high thrust-to-weight ratio of the revolutionary J-85 engines developed by General Electric. It is lighter and less costly to produce and maintain than any other aircraft in its performance class.

TARGET COST—Particulars of Target Cost System, now being applied to N-156F project, are reviewed by Vice-president and General Manager Dick Nolan, right; and John Van Hammersveld, general supervisor, Northrop Division's Engineering Design Support.

TARGET COST SYSTEM NOW BEING APPLIED TO N-156F DESIGN WORK

Northrop Division's new Target Cost System, evolved by engineering management, is now operative on the N-156F program, it has been announced by Vice-president and General Manager Dick Nolan.

Northrop's policy of "making competition" and of not being merely competitive dictates that all areas be constantly monitored for cost of end product.

Target Cost System will supply a long needed tool to assist Northrop Division projects in designing cost factors into the product inherent with performance, durability and suitability.

In commenting on the program, Mr. Nolan stated, "Target Cost System is a line operation in direct support of design groups. It will apply to all Northrop projects.

"Target cost programs are, of course, a continuing part of Division efficiency efforts. However, Target Cost System is unique in that it is a line function, it is Company-wide and it consists of established groups in Engineering, Manufacturing, Materiel, and Contract Pricing working as a coordinated team to predict and control costs.

"The constant flow of cost information from all areas—material, manufacturing methods, fabrication and assembly, tooling, the complexity of the design itself and changes will enable the designers to arrive at an end product that will meet the performance requirements and will sell for what the customer agreed to pay."

Target Cost System serves six basic needs:

1. To know if a new design can be built within Company estimates.
2. To determine areas that will yield the greatest reductions in cost within the limitations of contractual quantities and schedules.
3. A tool for Engineering to use in achieving the most economical design.
4. Manufacturing's ability to make realistic estimates for labor and tooling and to meet the actual performance requirements in matching the target cost.
5. Materiel's ability to make realistic estimates and to procure equipment and material items within the target cost concepts.
6. The accumulation of cost data to be used as historical information to predict more accurate and complete costs for future models.

The system is being implemented through the Engineering Design Support branch, John Van Hammersveld, general supervisor. K. L. Emberson is the coordinator representing the Design Support branch. Principle coordinators of the various departments for Target Cost System are W. E. Bruschaber, Tooling; Jim Rohland, Materiel; G. A. Schnug, Program Planning; and H. L. Knopp, Contract Pricing.

Product Planning Upped To Division Staff Level

In a significant new move to further improve the Northrop Division's ability to chart the path for the future, Vice-president and General Manager Dick Nolan last week announced elevation of Product Planning to Division staff level.

C. Robert Gates of the Corporate Development Planning staff was named director of Product Planning for the Division.

The Product Planning Group, formerly a portion of Weapon Systems Development Engineering, becomes a section, reporting directly to the office of the general manager. Its new designation is organization 1100.

Outlining the significance of the new move, Mr. Nolan commented: "Product Planning has the basic responsibility of defining in what product areas in the years ahead the Division should concentrate in relation to anticipated customer requirements. I consider this one of the most important responsibilities in any industrial organization and that it rests upon general management to make the final decisions relating to the planning of product programs."

Mr. Gates joined Northrop in October 1955. From 1942 to 1955 he was with the Office of the Director of Development Planning, USAF headquarters.

Nolan Will Speak at M-C Meet

The Management Club meeting of December 5 spotlights as guest speaker Vice-President and General Manager Dick Nolan, according to Charley Davis, M-C president.

Mr. Nolan will give "state-of-the-nation" report on Division affairs with emphasis on current projects and future business.

Second feature of the program will be premiere of the new Corporate capability motion picture —"Northrop Aircraft"—in which the many phases of endeavor, knowhow, and modern management approach will be graphically illustrated on the screen.

The group musters at the Rodger Young Auditorium, 936 West Washington Boulevard.

NORTHROP

NEWS BRIEFS

SATELLITE BRIEFING — Ralph Hakes, Astronautics, Art Ogness of Advanced Design, and Dr. J. Gordon Wells, Human Engineering, represented Northrop last month at National Aeronautics and Space Administration bidder's conference, Langley Field, Virginia. Final specifications for manned satellite capsule were presented to representatives of 38 firms. Bids are due early this month. Northrop will propose a design developed from studies made for Company's Project BROOM capsule for the orbital vehicle.

T-38 NO. 2—Second T-38 prototype has been delivered to Flight Test Engineering, and flight load instrumentation is progressing on schedule, reports Stan Erbeck, T-38 Weapon Systems project engineer. Static loads are being applied to the airplane's structure to calibrate strain gage installations. This is in preparation for measuring air loads in flight under all conditions, after which the plane will be flown to its design limit loads.

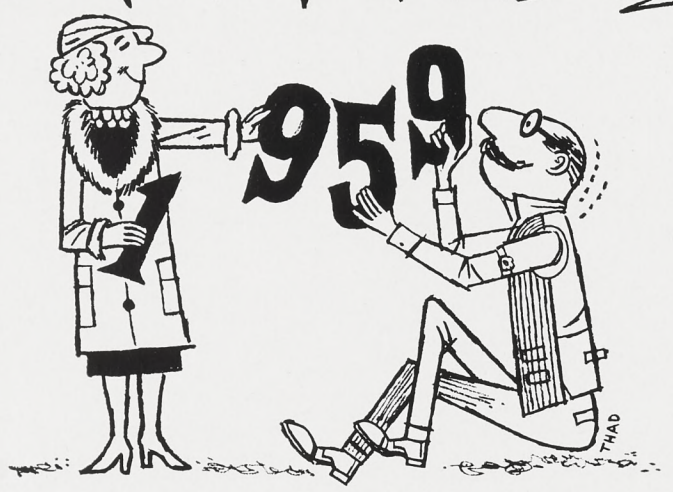
COLONEL MORRIS IMPRESSED — Commenting on a month of familiarization with Northrop Division operations, Colonel Harold T. Morris, new USAF plant representative, says: "Generally, I am very well impressed with the organization and personnel of Northrop. I see great evidence of significant improvement in planning, operations and cost control over the past several years. It was especially pleasing to find Northrop people high in their praise of the assistance they are receiving from their counterparts in the Air Force Representative's office. I personally have been very impressed with the cooperation afforded me in the short time I have been here."

PACE AT BUAER—Team headed by Vice-presidents Bob Lloyd and John Alison made PACE presentation to Navy's BuAer top officials—they were Rear Admirals R. E. Dixon, chief, BuAer; D. J. Welsh, assistant chief for plans and programs; L. D. Coates, assistant chief for research and development; and J. E. Dodson, assistant chief for procurement. Reception was very good. Question-and-answer session preceded by chart and slide presentation was marked by thorough evaluation. Inquiries were searching and sincere . . . This is highest level Navy presentation of PACE . . . Next PACE presentation is scheduled in Pentagon to be before Army officials of transport, signal corps, contracts, and ordnance.

WASHINGTON SCENE—Northrop Division Senior Washington Representative Colonel Willard W. Millikan comments on relationships with Department of Defense: "Proper and significant contacts with Department of Defense officials on all levels by capable Division representatives have helped immeasurably to tell our capability story and in the best terms." On the team concept: "The Air Force and industry are beginning to realize benefits from the team and associate concept of operation on the large weapon system projects. The Air Force is constantly refining their techniques on this type of procurement. Industry is responding ably and willingly. And again—contacts with the customer continue to be of utmost importance. The customer must know and be able to evaluate your capability on realistic terms. It behooves the manufacturer to tell his story and deliver the goods."

PAKISTANIAN VISIT — Five-member delegation from the Pakistan Air Force visited Northrop Division Saturday, 22 November, for a report on N-156F counterair fighter and T-38 supersonic trainer. Group toured N-156F and T-38 production facilities and inspected fighter mockup. John R. Alison, vice-president, Customer Relations, was host. Colonel Morris, AFPR, familiar with Pakistanian air defense picture, also greeted delegation. Technical presentation was conducted by Mr. Alison and Bill Pruitt, chief, Customer Relations Fighter Project. Low operating cost of the N-156F prompted considerable favorable comment from the Pakistanian experts. Party consisted of Air Commodore Dalwant Kumar Dass, Group Captains Salahuddin, Syed Inam-Ur-Rahman Bokahari and Janmast Afridi, and Wing Commander Khawaja Modiuddin Ahmad, accompanied by Colonel John W. Meador, USAF escort officer.

Social Security



You and your Company have a real interest in social security. Last calendar year all Norcrafters had the total of $2,085,000 in FICA (Federal Insurance Contribution Act) taxes deducted from their pay. The Company matched this amount, bringing the total to $4,170,000 in FICA taxes. Deductions make possible more security for you and your family this year than ever before.

It is interesting to note that during years of operation, 1939 to 1958, the Company has paid a total of $13,261,142.49 as their share of social security taxes.

THREE-WAY PROTECTION

Social security provides insurance protection against three types of money income loss to you and your family: retirement benefits after 65 (women at age 62); benefits at age 50 if you are unable to work because of a severe disability; and life insurance.

Any one phase can mean quite a bit of money to you and your

family. To take some examples:

You will be able to retire with a benefit of as much as $127.00 per month, plus an extra $63.50 per month for your wife (at age 65) or dependent husband. Benefits are payable for life.

A young man who dies leaving a widow and minor children may leave insurance benefits of as much as $254.00 a month. Total benefits in a case such as this can amount to as much as $50,000.

And you don't pay income tax on social security benefits.

TIME TO RETIRE

Retirement benefits for the worker, age 65 or over, range from $33.00 to $127.00 per month. A woman worker may retire at age 62 with a 20 per cent reduction in benefits. A wife or dependent husband, age 65, receives an additional 50 per cent of the worker's benefit. If the worker's wife elects to receive her benefits at age 62, her share is reduced by 25 per cent. (See benefit table.)

The amount of the benefit reduction for working women and wives is less for each month that she waits to file her claim after becoming 62. Other dependents eligible for payments half as large as the retired worker are as follows:

1. Dependent child (under 18 or disabled); and
2. Wife (regardless of age if caring for an eligible child).

Total monthly payments to a family cannot exceed $254.00.

IF YOU ARE DISABLED

If you become unable to do any substantially gainful work because of a severe, long-lasting disability, you may qualify for monthly cash benefits at age 50 or over.

NORTHROP RETIREMENT PLAN

The benefits available to you under the Northrop Retirement Plan are in addition to your social security benefits. Information about your Northrop Retirement Plan benefits may be obtained from the Office of Retirement Administrator, Personnel Office, Plant One, Hawthorne, or the Industrial Relations Office at your facility.

If you are disabled and have not yet reached 50, you may be eligible to have your social security earnings record "frozen". When your earnings record is "frozen" the period of low or no earnings need not be counted in figuring your average earnings or in figuring the amount of work you need to be eligible for payments.

The amount of the disability benefit at age 50 will be the same as the amount of your retirement at age 65. Certain dependents are also eligible for payments if the worker receives disability pay-

ments. The categories are the same as dependents of retirees.

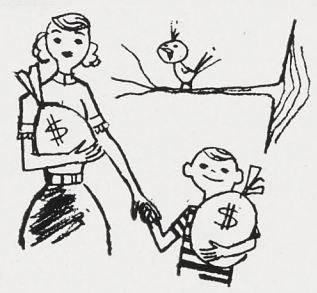
LIFE INSURANCE

If you die, the following dependents may be entitled to monthly social security benefits.

1. Widow 62 or over;
2. Widow or dependent divorced wife (regardless of age) if caring for eligible child;
3. Dependent child (under 18 or disabled);
4. Dependent widower 65 or over;
5. Dependent parent (mother 62 or father 65).

There is in addition a lump sum payment to the widow or widower or to the person who pays burial expenses ($99.00 to $255.00).

These monthly payments amount to three-fourths of the



worker's amount, except that children receive one-half plus another quarter divided amongst all children. These payments are subject to family maximum provisions. These benefits, it should be noted, are in addition to the Accidental Death and Dismemberment Insurance as well as the Ordinary Life Insurance coverage provided for you entirely at Company expense. (See benefit table.)

HOW TO FIGURE BENEFITS

For those of you who want to estimate future benefits, here's how to do it.

1. Compute the average monthly wage. Total all wages creditable to your social security account for the period beginning January, 1951, and up to Janu-

ary 1 of the year you become 65 (women use 62), die or become disabled. Divide this total by the total months in this period, ignoring up to five total years (months and wages) in which you have had low or no earnings. Years dropped do not have to be consecutive.

2. Refer to the appropriate chart mentioned earlier to convert your average monthly wage to the appropriate benefits payable.

HOW LONG?

How long you have to work before payments can be paid from your social security account depends upon your date of birth or date of death. The measurement is in terms of calendar quarters in which you have wages of at least $50.00.

If you reach 65 (women 62) in	January-June	July-December
1954	6	7
1955	8	9
1956	10	11
1957	12	13
1958	14	15
1959	16	17
1960	18	19
1961	20	21
1962	22	23
1963	24	25
1964	26	27
1965	28	29
1966	30	31
1967	32	33
1968	34	35
1969	36	37
1970	38	39
1971 or later	40	40

Once you have the required number of quarters, and no one needs more than 40, you are permanently insured and cannot lose your coverage even if you stop working.

EARNINGS WHILE YOU DRAW PAYMENTS

If you are potentially eligible for retirement or life insurance payments from social security, these can be paid to you regardless of the amount of earnings if you are 72 or over. If you are under 72 these payments may be made under one of the following conditions:

1. All payments if you earn $1200 or less in a year (unless death shortens the year);
2. Some payments if you earn $2080 or less per year; or
3. Payments for particular months that you earn $100.00 or less from wages or are not rendering substantial services in a

business of your own no matter how high your annual earnings are.

If you ever become eligible for disability payments, any earnings from work is an indication that you may no longer be disabled. A decision as to whether or not your benefits would continue will be made by the Social Security Administration.

Observation: A person who earns money after he retires may have his benefit refigured to take this pay into account. If it raises his over-all average it can mean a higher benefit.

$4800 TAXED

Effective January 1959 you will pay 2½ per cent on the first $4800 of your salary for more generous social security protection. Northrop matches your payment. These rates are scheduled to increase again in 1960, and every three years thereafter, until it reaches 4½ per cent in 1969. For example: if you make $4800 in 1959 you will pay $120.00 social security tax. In 1969 an employee making $4800 will pay $216.00 social security tax.

FOUR TIMES FOR ACTION

Occasionally people lose benefits by not knowing their rights under the social security program. Contact your local social security office personally or by telephone when the following events occur in your life.

1. When you reach retirement age (62 for women, 65 for men).
2. When you are 72.
3. If you are disabled before 65.
4. If a worker in your family dies.

MORE CHANGES

All of the benefit figures quoted in this article will take effect January 1959. In general, benefits payable in 1958 are about seven per cent less.

A number of minor changes were made which may affect individuals you know who have filed claims for social security benefits, but were not eligible under the law prior to September 1958. These are liberalization of:

1. Disability work requirements;
2. Dependency rules for disabled children 18 or over;
3. Eligibility rules for dependent parents; and
4. Rules pertaining to beneficiaries who married and lost their rights to receive any benefit payments.

FILING A CLAIM

Before any benefits can be

paid a claim must be filed with the Social Security Administration. It is advisable to go in person to your local office or if you are unable to go in person, contact the office by telephone.

Social Security Benefits

If Your Average Monthly Wage After 1950 Is*	If You Retire at 65 or Are Disabled at 50, You Receive	For Retired Couple, both 65, You Receive	For Working Women Retiring at 62, You Receive (20% Reduction)	Your Widow, Widower, Child or Parent Receives	Your Widow and Two Children Receive	Payment to Your Family Can't Exceed
**$400.00	$127.00	$190.50	$101.60	$ 95.30	$254.00	$254.00
390.00	125.00	187.50	100.00	93.80	250.00	254.00
380.00	123.00	184.50	98.40	92.30	246.00	254.00
370.00	120.00	180.00	96.00	90.00	240.00	254.00
360.00	118.00	177.00	94.40	88.50	236.00	254.00
350.00	116.00	174.00	92.80	87.00	232.00	254.00
300.00	105.00	157.50	84.00	78.80	210.00	240.00
250.00	95.00	142.50	76.00	71.30	190.00	202.40
150.00	73.00	109.50	58.40	54.80	120.00	120.00
50.00	33.00	49.50	26.40	33.00	53.00	53.00

*After dropping out as many as five years of lowest or no earnings.

**A $400.00 monthly average will generally not be possible for anyone who has reached the age of 21 before 1953. For example, if you retire in 1960 with maximum earnings, your monthly average would be $370.00.

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SPORTS

The Northrop News

GOLFERS AIM FORE YEAREND HOLIDAY, TWO-DAY ANNUAL NRC TOURNAMENT

Last courses on the NRC 1958 golf menu are Western Avenue and Lakewood.

The Annual Christmas Tournament tees off at Western Avenue Monday, December 29, with first start slated for 9 a.m. The competition moves south to Lakewood the following day, December 30, with first start at 9:30 a.m.

The tourney is open to all Norcrafters with established handicaps.

According to Ted Deguisne, day commissioner, and Russ Munsen, night commissioner, NRC trophies will be awarded for over-all low gross and over-all low net. To all winners in each flight will accrue merchandise prizes.

Entry costs are $1 prize money and $4 green fees. Entry blanks are now available at Personnel Activities offices in Plants One and Three and at El Segundo.

Entry deadline is Monday, December 15.

ski club hosts . . .

ice skating party

all Norcrafters, families and friends invited

- **december 10**
- **polar palace rink**

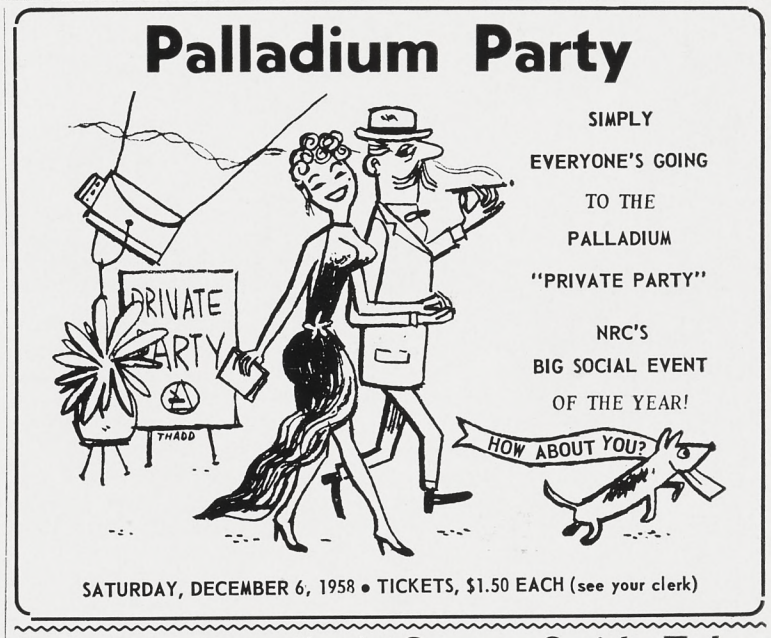
call extension 2784 for information

NRC Chorus Encores with the "Messiah"

NRC Mixed Chorus' second and final 1958 performance of Handel's sacred oratorio, "Messiah," is on the calendar for Friday, December 12, at 7 p.m.

As reported in the November 5 *Northrop News*, the chorus will join the Star of Creation Methodist Church choir in this Christmastide offering. The blending of talents will take place at the Church of the Latter Day Saints stake house (Morman chapel), 2000 West 174th Street, Torrance.

Featured soloists are soprano Joyce Smith, contralto Trudy Troy, tenor Robert Sage, and bass Don Ogren. Charles Nixon directs the chorus.



Georga Smith Takes Eastern Star Office

Georga Smith, Engineering Budgets and Reports, was installed last month as worthy matron of Hawthorne chapter 469, Order of the Eastern Star.

Georga has been active in the order for some 10 years.

FOSTER KINSHIP—First Norcrafter groups and committees to select needy families for organizational Christmastime adoption are, standing, Monte Gmur, Lester Brewer, Dick Carroll, Elmer Noonan; seated, Jack Snedaker, W. F. Cologne, Midge Danton, Ann Dolan, Melvin Hanks, Gunnar Carlson, Erna Curtiss, Marie Tully. Mal Mountain reads case history of one of families whose Christmas prospects are far from happy. Adopted Family program is Northrop tradition of voluntary gifting by specific family needs.

BBSF Classified Ads

BBSF classified ad service is provided free of charge to all Norcrafters.

Items advertised in "For Sale" and "For Sale or Trade" categories are limited to a maximum of $50. Price must be stated.

Box numbers will be provided for Norcrafters who do not have home phones or who do not wish calls. Replies to box numbers are to be in writing and sent to the News Office.

Ads for agencies, commercial enterprises and private businesses are not accepted.

Deadline is noon Monday, nine days before publication.

FOR SALE

BUICK, 1946 Super 4-dr, needs work, spare parts, $45. NE 8-0242. A

HEALTH BUILDER, Battle Creek, 2 belts, cost $260, $50. PL 6-8095. A

BICYCLE, J. C. Higgins boy's 26", $20. EX 8-1559. A

BABY FURNISHINGS, crib w/mattress, Storkline; playpen; travel bed; bathinet; $45. OR 0-0539. A

BICYCLE, English racing-type, girl's 26", 3-speed gears, handlebar brakes, lites, horn, basket, rear-view mirror, $25. FR 8-2794. A

DINETTE SET, yellow, Formica table w/4 chairs, $45. OR 4-5391. A

GUITAR, Gibson electric, w/case, $50. FR 6-6085. A

SHOES, elevator-type, man's size 7½D, black, $10. Box 501. A

BICYCLE, racing-type, girl's 20", new basket, original tires, $25. ME 3-1646. A

TENT, 9'x12' umbrella-type, cost $90, $50. FA 8-8899. A

BICYCLE, girl's 20", 2 yr old, $20. FA 8-3306. A

DINETTE SET, maple, table w/2 leaves, 4 chairs, $50. OS 6-5921. A

BICYCLE, liteweight, 3-speed gears, $20. OS 5-0838. A

HEATER, gas log-type, $20. ME 4-2760.

WASHER, Kenmore wringer-type, $25. OS 9-2081. A

TYPEWRITER, Smith-Corona Clipper portable, w/case, $35. PL 5-6509. A

REFRIGERATOR, Philco, w/freezer, $45. DA 9-6208. A

REFRIGERATOR, Servel gas, $50. OR 2-1104. A

MASSAGER, portable, w/pillow & case, cost $89.50, $50. Box 504. A

RANGE, Martha Washington apt-size, 4-burner, $25. PL 2-3696. A

RANGE, Philco electric 40", double oven, glassed broiler, $50. OR 1-5267. A

RANGE, O'Keefe & Merritt, grill, light, condiment shakers, $35. FR 6-3650. A

WASHER, Easy Spindrier semi-automatic, $20. FR 9-6888. A

DRESSING TABLE, kidney-shape, glass top, 2-wing mirror, $15. OS 6-3886. A

REFRIGERATOR, Westinghouse 7 cu ft, 7 yr old, $50. TO 2-3758. A

COWBOY BOOTS, for 12-yr-old boy, $7. PL 4-0778. A

CHILD'S EQUIPMENT, swing set, 4-pc, w/6' slide, $25; sandbox, $20. DA 3-0719. A

WASHER, $35. NE 2-8377. A

TYPEWRITER, Underwood 5, $35. PL 5-0863. A

STOVE, Gaffers & Sattler, 2-drawer, 4-burner, $35. FR 5-9764. A

RANGE, O'Keefe & Merritt gas, automatic, $35. FR 5-0867. A

ROTISSERIE, Roto-broil 400 electric, $15. FR 5-8536. A

DOG HOUSE, floor, overhanging roof, $15. PL 5-2723. A

COFFEE TABLES, 2, black, $3 ea. GR 7-1539. A

FOR SALE

DOG, Weimaraner, 7-mo-old male, purebred, license, $50. FR 8-1751. A

ICE SKATES, hockey-type, man's size 9, $5. PL 8-7138. A

WASHER, Bendix Gyromatic automatic, $25. DA 6-5558. A

MICROMETER, Starrett 0"-1", 0.010"-calibrated, satin finish, 6 wk old, $16. PL 5-9075. A

REFRIGERATOR, Frigidaire 6', $45. FR 9-5144. A

HEATER, Fan Glow electric, $13. FR 6-2536. A

ROOM HEATER, 1958 GE Deluxe, fan-forced & radiant heat, thermostat, indicator light, tip-over shutoff, cost $40, $27. FR 6-0746. A

WANTED TO BUY

SCOOTER, Allstate, for parts. Box 502. B

PUP, miniature poodle, black female. FR 8-2794. B

TIRE CHAINS, 7.10x15. DA 6-5558. B

CAR MANUAL, 1951 Mercury. Box 505.

TRANSPORTATION CAR, 1941 or older, max. $50. FR 9-9616. B

PIANO, upright. PL 7-4339. B

SLIDE RULE, 5". Box 506. B

FOR TRADE

GUNS, rifle, Mossberg .22 semi-automatic; revolver, S&W .38 hammerless-type; trade for standard typewriter. OS 6-5253. C

REFRIGERATOR-FREEZER, 12-cu-ft, 2 std righthand doors, trade for refrigerator w/lefthand doors. PL 6-8095. C

FREE (to be given away)

KITTENS, 2, tabby, 6-wk-old male & female. FR 6-1367. D

HOME FURNISHINGS, wood window shutters, garden gate. PL 6-8095. D

RENTALS WANTED

GARAGE. Box 503. F

PERSONALS

RIDE WANTED, Aurora, Ill., December 11 or 12, share driving & expenses. OS 5-0838. L

SINCERE THANKS to the many friends & coworkers for all the gifts, cards, & flowers received during the long illness & loss of our beloved husband & father. MRS. HAROLD EMBREY & CHILDREN. L

HEARTFELT THANKS for the beautiful flowers & wonderful gift from Orgn. 5509 & the many lovely cards & expressions of sympathy for our recent loss. IVAN & JEWELL BENNETT & FAMILY. L

CONTACT WANTED w/Fordham U. alumni. FR 8-5328. L

RIDE WANTED, December 19, Detroit-Chicago area, share expenses & driving. OS 6-6696. L

RIDES WANTED

7:00 a.m. — 3:45 p.m.

(Zone 4)
VERMONT & 109th ST., Los Angeles. GENARO CHAPA (5512-44757, ext. 2568.) 2-4

7:30 a.m. — 4:15 p.m.

(Zone 3)
ATLANTIC & SLAUSON, Huntington Park. KATHLEEN TOURNIE (9542-56456, ext. 2228). LU 8-2685. 3-3

(Zone 4)
COVINA BLVD. & GRAND, Covina. (Desire car pool.) R. J. HALLOWELL (8920-55894, ext. 1564). ED 2-4409. 3-4

(Zone 8)
GAFFEY & 18th ST., San Pedro. JUNE TAYLOR (8853 - 48583, ext. 663). TE 2-4137. 3-8

WESTERN & 238th ST., Torrance. ESTELLE PALSON (8913-54826, ext. 1213). 3-8

(Zone 14)
CENTINELA & HYDE PARK, Inglewood. BETTY BOLTON (5240-39521, ext. 2181). OR 1-3645. 3-14

8:00 a.m. — 4:45 p.m.

(Zone 1)
ARBOR VITAE & CRENSHAW, Inglewood. ESTELLE OHAYON (3145-49593, ext. 1436). PL 7-2608. 5-1

RIDES WANTED

8:00 a.m. — 4:45 p.m.

(Zone 4)
WILKIE & 119th ST., Holly Park. (Consider car pool.) KATHRYN McCARTHY (3145-53174, ext. 1438). PL 4-5068. 5-4

FIRESTONE & OLD RIVER SCHOOL RD., Downey. (Desire car pool.) E. F. PIERCE (3121-53145, ext. 463). HA 1-3208. 5-4

(Zone 5)
LONG BEACH BLVD. & OLIVE, Compton. MARION LAGATREE (3145-47145, ext. 1436). NE 8-7435. 5-5

(Zone 9)
CATALINA & TORRANCE BLVD., Redondo Beach. PAT HAUSER (3143-12538, ext. 1541). 5-9

CONDON & 148th ST., Lawndale. (Desire car pool.) P. W. MAGGARD (3143-51178, ext. 1503). OS 6-3090. 5-9

(Zone 13)
ARBOR VITAE & 4th AVE., Inglewood. H. M. CALLAWAY (3145-47227, ext. 1436). PL 5-4580. 5-13

(Zone 14)
INGLEWOOD BLVD. & JEFFERSON, Culver City. (Desire car pool.) HAL FISHER (3566-50302, ext. 463). EX 1-1869. 5-14

4:45 p.m. — 1:15 a.m.

(Zone 10)
PACIFIC COAST HWY. & PIER, Hermosa Beach. J. D. SMITH (5508-48249, ext. 2755). FR 2-4192. 8-10

RIDES WANTED

Miscellaneous — Split Shift

(Zone 3)
NORMANDIE & 110th ST., Los Angeles. (Hours: 7:15 a.m.—4 p.m.) KATHY TALKINGTON (6410-25210, ext. 3-354). PL 4-7158. 10-3

RIDES OFFERED

7:00 a.m. — 3:45 p.m.

(Zone 8)
ESCHELMAN & 240th ST., Lomita. (Via Crenshaw, 190th St., Prairie.) J. K. AUBRY (7735-27048, ext. 2369). DA 6-4776. 12-8

7:30 a.m. — 4:15 p.m.

(Zone 4)
COVINA BLVD. & GRAND, Covina. (Desire car pool.) R. J. HALLOWELL (8920-55894, ext. 1564). ED 2-4409. 13-4

8:00 a.m. — 4:45 p.m.

(Zone 4)
WILKIE & 119th ST., Holly Park. (Consider car pool.) KATHRYN McCARTHY (3145-53174, ext. 1438). PL 4-5068. 15-4

FIRESTONE & OLD RIVER SCHOOL RD., Downey. (Desire car pool.) E. F. PIERCE (3121-53145, ext. 463). HA 1-3208. 15-4

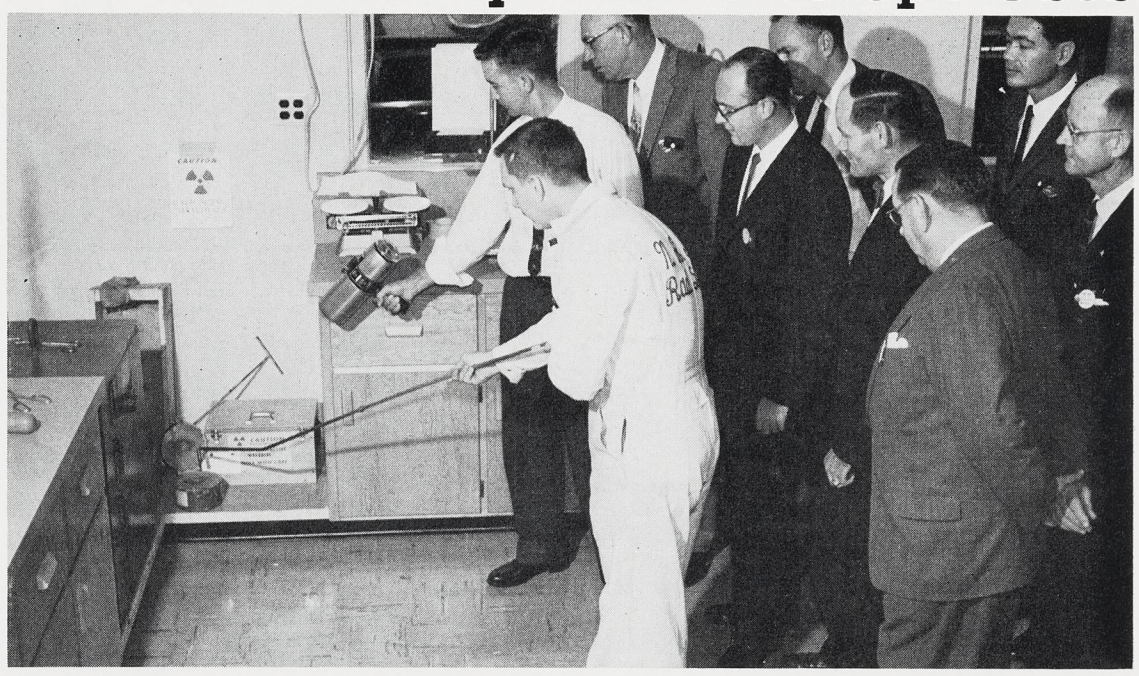
(Zone 9)
CONDON & 148th ST., Lawndale. (Desire car pool.) P. W. MAGGARD (3143-51178, ext. 1503). OS 6-3090. 15-9

(Zone 13)
VANOWEN & WINNETKA, Canoga Park. (Established car pool.) H. J. BLACY, Jr. (3160-30569, ext. 1818). DI 7-0329. 15-13

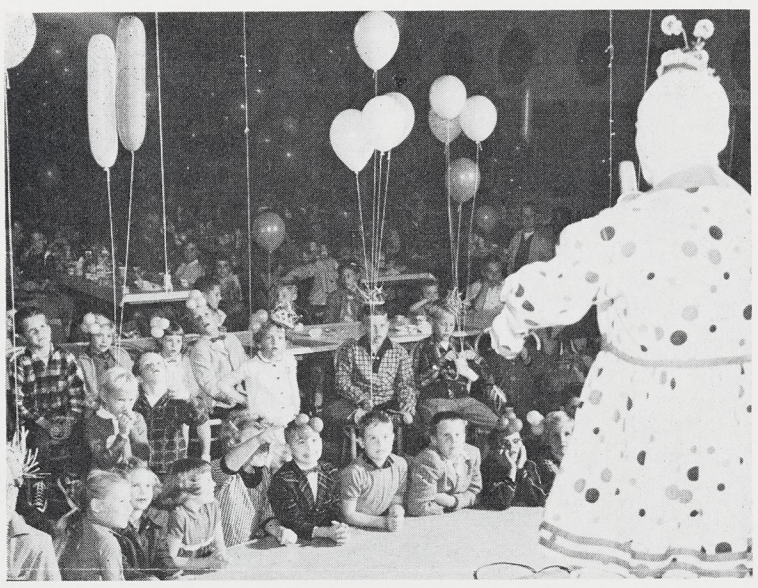
(Zone 14)
INGLEWOOD BLVD. & JEFFERSON, Culver City. (Desire car pool.) HAL FISHER (3566-50302, ext. 463). EX 1-1869. 15-14

GLOVE TREATMENT—Radiation-protective box for handling of active materials utilizes rubber gloves manipulated by Bob Johnson, head of radiochemistry laboratory, Nuclear Technology. Viewing newly initiated facilities are Northrop Radiation Committee members Ed Rigalado, Lee Johnson, Jerry Baker and Dr. Roger Mackey. New uses for radioisotopes will be investigated and developed here.

New Lab Surveys Radioisotope Uses



Clown, Chow Charm M-C Offspring

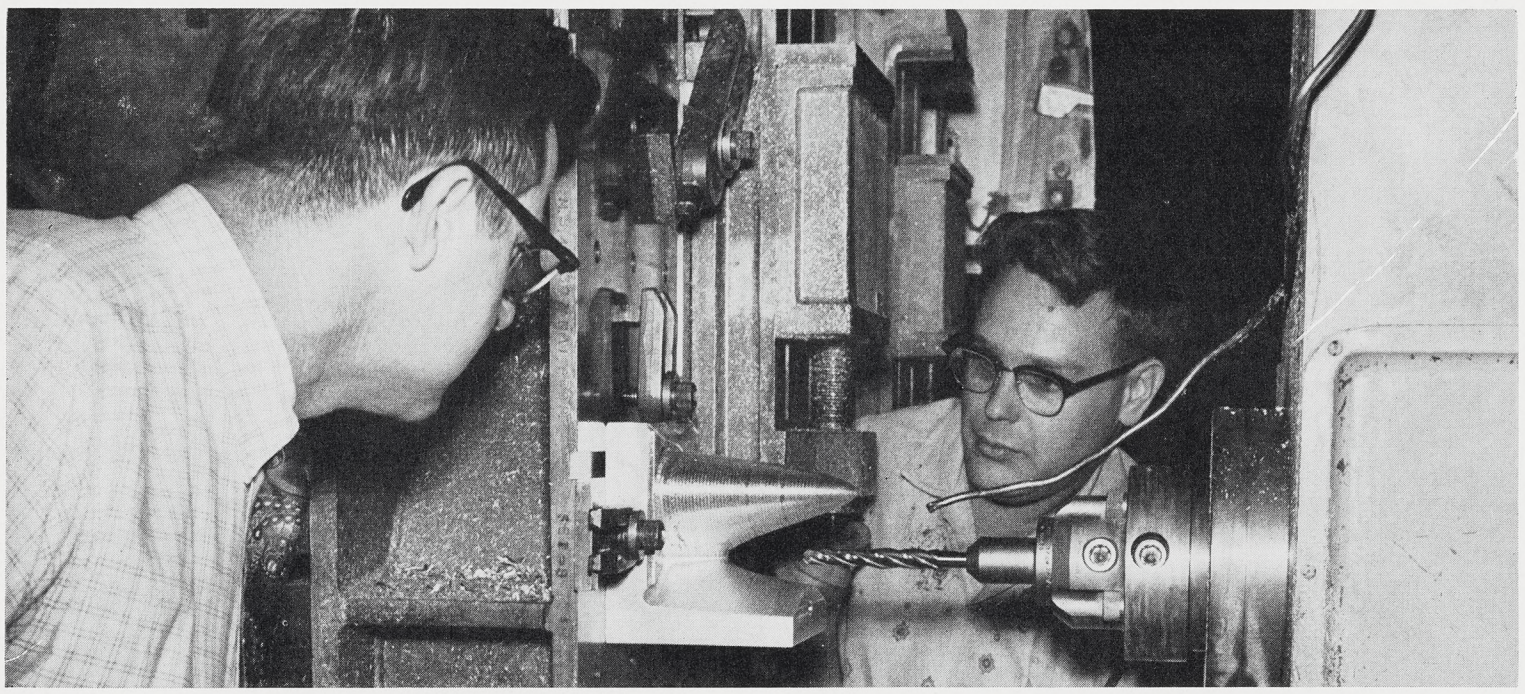


CLOWNING AROUND — Featured entertainer, Bobo, evokes giggles from sons and daughters of Management Club members at recent Annual Frolic. Scene was the NRC Clubhouse.

SELF-SERVICE — Gary Larson, a guest, surveys the plate-fillers from behind the chow line while Elmer Noonan III, son of M-C treasurer, scrutinizes milk cartons. Management Club board members officiated as the chow line chefs.

HOT HANDLING — Bob Johnson exposes radioactive slug from its protective shielding while Charles Cole measures emanations with futuristic ray-gun-type counter. Radiation Committee members Jerry Baker, Chairman Phil Brooks, Mitch Dazey, Bob Fortney, Dr. Roger Mackey, Ed Rigalado, Lee Johnson survey handling safety.

Northrop News Pictorial



ARTISTIC ABSTRACT—Such was the title of the three-dimensional structure at right when featured in October 14, 1957, issue of Newsweek magazine. Bob Feeny, supervisor, Lines and Data Development, figured it could be reproduced by numerical control. Having programmed the formula, $z=y^3-3y^2-x^2+6$, he and Bill Harris, right, survey the resultant aluminum structure which exactly duplicates the original hand-carved wooden model.

WAY OUT—Farreaching thinking is everyday business for these members of Astronautics, Advanced Design. In photo at left, Bob Connor, discussing future Northrop spatial proposals, utilizes special celestial globe to illustrate point to Paul Holliday and Lew Kenner. Nearing a resolution in the center photo, Paul dictates conclusions to Joan Ell, photo at right. Ralph Hakes is Astronautics supervisor. (See News Briefs, Page 1.)

Northrop News

Issued Every Two Weeks at Northrop Field, Hawthorne, Calif. Wednesday, December 17, 1958

SNARK $50-MILLION ORDER ANNOUNCED

The U. S. Air Force and the Northrop Division have completed negotiation of a $50-million contract covering production of additional Snark SM-62 intercontinental guided missiles.

Richard R. Nolan, vice-president and general manager of the Northrop Division, announced the negotiation results this week.

The negotiation covered production of additional operational Snark missiles plus spare parts and ground support equipment.

The $50-million figure includes a $20-million letter contract awarded last September 15.

Contracts covering current production of operational Snarks, spare parts and ground support equipment were awarded last year. The new contract provides for continuation of this program through December 1960.

The Snark is being delivered to units of the Strategic Air Command and will be in service next year at Presque Isle AFB.

NORTHROP

NEWS BRIEFS

N-156F FUTURE—Importance of the N-156F project was underscored by President Collins last week in his report to shareowners. At the same time, he indicated the Corporation would continue strong support of the program. "The N-156F effort . . . is a most important program and I intend to remain personally active in it, as I have in the past," he said. "I have talked to numerous military leaders and heads of government abroad, and am encouraged by their reception . . . " Corporate office personnel, including Mr. Collins, Senior Vice-president Thomas V. Jones, and Vice-presidents Irving Roth and J. G. Nettleton, have been briefing foreign governments on N-156F capabilities and on other Northrop programs. Among those recently visited were Franz-Josef Strauss, defense minister of Germany; Dr. Theodore Benecke, director of research and development of the German Air Force; Major General H. B. Thatcher, chief of the Military Assistance Advisory Group, Germany; His Royal Highness, Prince Bernhard, of the Netherlands; General Fredrik Motzfeldt, commander in chief, Royal Norwegian Air Force; Lt. General Tage Andersen, commander in chief, Royal Danish Air Force; Air Marshal Sir Fredrick Scherger, chief of staff, Royal Australian Air Force; General S. Sanagi, chief of staff, Japanese Air Self Defense Force; the Canadian and Australian Joint Service Staffs, leaders of the British Admiralty and many other U. S. and foreign government and military officials. Long-range plans for possible manufacture of the N-156F abroad and Corporate office liaison are being continuously maintained on N-156F and other programs with leading industrial concerns overseas, including SABCA (Societe Anonyme Belge de Constructions Aeronautiques), Fokker, and the aviation division of Fiat, Italy's giant auto manufacturing concern.

TO THE CAPE—Northrop Division Vice-president and General Manager Dick Nolan and Engineering Vice-presi-

(See NEWS BRIEFS, Page 2)

Season's Greetings

Mrs. Collins and I wish all of you in all Divisions a merry Christmas and a happy New Year.

Nineteen Fifty-nine finds us on the threshold of the space age. Never before have the goals been so exciting and such a challenge.

It is a deep satisfaction to know that the Northrop capability can meet this challenge. Our mutual efforts, our sincere, constant attention to the tasks at hand, and our ability to function efficiently as a team make this possible.

This is as it should be—for our most compelling duty is to help our country to achieve technical and product answers so necessary in this era.

May the joy and happiness of the season be with you throughout the year. God bless you all.

Whitley C. Collins
President.

Our traditional yearend holiday starts at the close of shift Tuesday of next week. This makes the Christmas season a very special season for us. It will be a time of gratitude for our many blessings, greetings to our friends, and relaxation with our loved ones.

The past year has been a busy one. We have accomplished many things together and we are ready for the new year with good programs and firm objectives.

Your spirit and will to get the job done has made this possible.

To a fine team of aircraft and missile builders, Mrs. Nolan and I extend best wishes for a merry Christmas and a happy New Year.

Dick Nolan
Vice-president and General Manager.

Norcrafters Schedule Full Program of Holiday Events

The Christmas spirit is in high gear for Norcrafters and their families.

Heading the sparkling roster of Yule functions was the Management Club's Christmas banquet December 5, with Vice-president and Northrop Division General Manager Dick Nolan as featured speaker. (See story, this page, and photos, Page 3.)

The following night, December 6, approximately 3000 Norcrafters partied, danced and hula-hooped at the Palladium. (For photos, see Page 3.)

Management again hosted the NRC Councils with a festive board last Saturday, December 13. (See photos, Page 3.)

And now, only eight days before Christmas, the schedule sets an even brighter pace. Keeping Old St. Nick busy the week preceding his chimney visits are the many children's parties slated at various facilities.

This evening at 7, the Scouts Christmas party will hold forth at Eau Gallie, Florida.

Tomorrow, December 18, at 7 p.m., Santa descends on Holloman Air Force Base for their children's party at the Women's

(See YULETIDE, Page 2)

M-C Hears Nolan Talk On Future

Vice-president and General Manager Dick Nolan spoke before a capacity crowd at the December Management Club meeting, Rodger Young Auditorium.

In his first address since becoming general manager, Northrop Division, Mr. Nolan outlined the great capability steps the Company has taken in the past few years.

"We are definitely pointing toward space products," he said. "We have fine talent in this field —as good as any in the nation."

In outlining Company strong points in his Management Club address, Mr. Nolan paid high tribute to the Corporate organization in Beverly Hills.

"The vision and progressiveness shown by President

(See NOLAN, Page 2)

ON CHRISTMAS BEAM—When that perceptive genius, the 704, looked at the calendar, it decided a special message was in order. So, with an assist from Lee Ohlinger, chief, Computing and Datamation Center, and Ron Johnson, programmer, the 704 beamed its Yule wish. At ready is Robert Olson, one of the 704's operators, just in case it should misspell a word. (Machines are only human, you know.) But it didn't.

Shareholders OK Northrop Name Change

Beverly Hills, California—Earnings of Northrop Aircraft, Inc., for the first quarter of fiscal 1959 held at the high level achieved in the comparable period last year, Whitley C. Collins, president, announced last week at the annual meeting of shareholders.

The shareholders, meeting at Northrop Field, approved a change to "Northrop Corporation" which will become effective

(See MEETING, Page 2)

Yearend Holiday Check Distribution Announced

Next week brings Northrop's traditional holiday—this year, an uninterrupted nine-day period.

Christmas holiday begins Wednesday, December 24, and continues through Thursday, January 1.

For this year, the first of the newly inaugurated "floating" holidays, Wednesday, December 24, has been selected to enable all Norcrafters to enjoy Christmas Eve with their families.

To cover the remainder of the period from December 25 through January 1, all fulltime hourly personnel on the payroll as of Tuesday, December 23, will receive 40 hours of straight-time pay at their then effective rates.

(See PAYCHECKS, Page 2)

NRC Santa Parties Junior Norcrafters

Santa homes in on the NRC Clubhouse this Sunday at 12 noon. From his bulging pack will pour goodies and toys for all Norcrafter heirs.

The red-suited man and a covey of elves and helpers will visit with the kiddies from 12 noon until 4 that afternoon.

Clubhouse address is 175 North Hawthorne Boulevard.

NEWS BRIEFS

(Continued from Page 1)

dent George Douglas flew to Florida last week for an overall review of the Cape Canaveral program and conferences with Norcrafters there . . . Mr. Nolan and Mr. Douglas also witnessed a Snark launch while at the Cape.

HONEYCOMB PROGRESS—The Northrop Division has added materially to its stainless steel brazing capability, it has been announced by Manufacturing Vice-president Bob Lloyd. Two production brazing machines have been completed and the first large panel was turned out last week. Panel measured two feet by five feet and was of highest quality. Mr. Lloyd stated, "Our R & D on stainless steel brazing for honeycomb structures has been advanced by at least six months as a result. Stainless steel brazing capability plays a very important part in Northrop Division proposals now under way. We intend to be ready for any job asked of us."

IMPORTANT VISITORS—Major General Wm. O. Senter, director of Procurement and Production, AMC, and Major General Mark E. Bradley, jr., assistant deputy chief of staff, Materiel, Hq. USAF, were high-level visitors recently. General Senter was here 2 December. General Bradley visited on 9 December. John R. Alison, vice-president, Customer Relations, reports that both men were briefed on the progress of Northrop programs, principally the T-38 and N-156F. They also toured Engineering and Manufacturing facilities. "General Senter and General Bradley indicated favorable reaction to our progress in both prime and subcontract work," stated Mr. Alison. "They were particularly pleased with the areas of schedule awareness, efficiency and cost reduction and our general over-all atmosphere of industrious effort throughout the plant."

MR. NOLAN ON THE MINUTEMAN PROPOSAL—"Although Northrop Division was unsuccessful in the Minuteman associate contract proposal, it is felt that the experience gained on our efforts to obtain this business is most invaluable. Ballistic Missile Division was kind enough to give other management members and myself a complete and candid critique on the reasons our proposal was not accepted and the governing factors that won the bid for another company. BMD counsel plus our own increased knowhow has served to broaden the scope of all proposals now under way."

SNARK ASSEMBLY LINE—Plans have been partially approved for re-layout of Snark assembly areas, it has been announced by Manufacturing Vice-President Bob Lloyd. New assembly look, when complete, will mark change-over from research and development era to production versions of the missile. Production potential, cost efficiencies, plus clean and modern manufacturing streamlining, are important factors to be incorporated in the change.

TARGET COST SYSTEM—Target Cost System, the new line function to monitor airplane cost factors at the design stage, is now operative on the N-156F program . . . (See Northrop News, 3 December 1958.) Engineering Vice-president Mr. Douglas stated, "The Target Cost System applied to design is very similar in objective to weight control programs. Instead of pounds, we are dealing with dollars . . . It is my opinion that the Target Cost System will be a highly successful tool that will help design engineers build cost savings into the product. At this stage, the system indicates that with the N-156F prototype we are under target with tooling, but over target on labor and materials. With the N-156F production design, Target Cost System tells us that we are under target on all three—labor, tooling and materials." Design change decisions on the N-156F now being monitored include the leading edge flap, the fuselage glove, engine inlet ducts, application of the T-38 stabilizers, and wing fuselage fairing . . . Northrop Division's application of the Target Cost System is unique in that this is the first time such a system has been applied Division-wide and as a line function. General Senter was briefed on the program last week. Engineering management is 100 per cent behind Target Cost System."

Shareholders' Meeting

(Continued from Page 1)

Monday, February 2, 1959.

The new name is more in keeping with the growth of the Company in new areas, such as guided missiles, electronic instruments and systems, target drones and space research, as well as aircraft, Mr. Collins explained. In other action all members of the board of directors were re-elected for the ensuing year.

Mr. Collins stated that profit margins continued to improve in the first quarter as steady earnings were realized on a reduced sales volume, pointing up the effectiveness of Company programs to increase efficiency in all aspects of operations.

Net income for the three months ended October 31, 1958, was $1,454,840, a slight gain over the $1,421,173 recorded in the initial quarter of the preceding years. On a per share basis, earnings equalled 92 cents against 93 cents for the like quarter last year, based on 1,583,739 shares and 1,527,967 shares outstanding at the respective year ends.

Sales and other income, for the quarter totaled $57,843,115, compared with $63,903,264 for the corresponding period last year.

Backlog at October 31, 1958, amounted to about $250,000,000, compared with $216,000,000 a year earlier. Approximately $36,000,000 in additional orders are currently well along in negotiation. In excess of 60 per cent of present backlog is in unmanned aircraft (missiles and drones), electronics, and projects in space technology.

Yuletide—

(Continued from Page 1)

Club in Alamogordo.

Organization 8930 at Hawthorne tilts the wassail bowl Friday, December 19, in the NRC Clubhouse Annex, at 7:30 p.m.

And on this Saturday, December 20, Santa'll need to ride sidesaddle on a Snark to meet his many commitments. The El Segundo children's party clusters at the Paradise Theatre in Westchester from 10:30 a.m. until 1. At 1 p.m. Florida facility fetes their kids in Eau Gallie.

Saturday evening, Holloman's Christmas party, senior division, takes over the NCO Club at 7. And, at 8 p.m., Hawthorne's NRC Clubhouse is the scene of the annual Maintenance dance.

The next afternoon, Sunday, December 21, NRC Clubhouse walls will echo the delighted squeals of kids gifted by Santa at the Hawthorne annual children's gettogether. (See story, Page 1, for more details.)

And doing up Christmas Texas-style, El Paso facility's party rustles the Del Camino Motel, December 22, at 8 p.m.

Special events for the windup week of 1958 include the NRC Ski Club trip to Mammoth Mountain, December 26 through 31, and the Christmas Bowling Tournament at Rose Lanes, December 26, 27 and 28, 10 a.m. to 9 p.m.

FIR SAFETY

Christmas-spirited Norcrafters, with organizational trees in mind, are once again reminded that only flameproofed trees and decorations are allowed. Flameproofing certificates are required.

Tree lights must be disconnected at close of shifts.

On December 23, the decorations should be removed so that Maintenance may pick up the trees for disposal.

Paychecks—

(Continued from Page 1)

Friday, January 2, and Saturday, January 3, will be regularly scheduled eight-hour workdays at straight-time pay for hourly rated and salaried non-exempt personnel.

According to George Forbes, paymaster, all paychecks for the week ending December 21, 1958, together with the 40-hour year-end holiday checks for hourly Norcrafters will be distributed on Tuesday, December 23. Standard deductions will apply to the regular paychecks, while only taxes, Credit Union loans and Credit Union shares will be deducted from the hourly Christmas checks—no bonds, annuities, AID or group insurance.

For the week ending December 28 (which for hourly personnel, in most cases, will include only the three days of December 22, 23, and 24), paychecks will be distributed on Saturday, January 3. Deductions for all personnel will be made for taxes, annuities, AID, group insurance, Credit Union loans and Credit Union shares—no bonds.

Checks received by hourly Norcrafters on Friday, January 9, will, again in most cases, include only January 2 and 3. Taxes, annuities, AID and group insurance will apply—no bonds, no Credit Union shares or loans. Deductions on salaried checks will cover taxes, annuities, AID, group insurance, Credit Union loans and shares—no bonds.

BBSF Classified Ads

BBSF classified ad service is provided free of charge to all Norcrafters.

Items advertised in "For Sale" and "For Sale or Trade" categories are limited to a maximum of $50. Price must be stated.

Box numbers will be provided for Norcrafters who do not have home phones or who do not wish calls. Replies to box numbers are to be in writing and sent to the News Office.

Ads for agencies, commercial enterprises and private businesses are not accepted.

Deadline is noon Monday, nine days before publication.

FOR SALE

CHILD'S FURNITURE, youth bed w/mattress, $10; chest, 5 drawers, $5; table, Safety Server, chairs, $5. FR 9-2659. A

BICYCLE, Rollfast girl's 16" sidewalk-type, green, w/trainer wheels, horn & basket, $20. DA 3-1993 before 2 p.m. A

PUP, dachshund, 6-wk-old male, AKC, $50. TE 5-2216. A

MOVIE PROJECTOR, Brownie 8-mm 500-watt, $50. HA 5-8154. A

DINETTE SET, chrome & yellow formica, w/4 yellow leatherette chairs, $45. FR 6-3228. A

CAMERA, Rolleicord IV, Compur rapid shutter, Triotar f:3.5, case, $35. DA 6-8196. A

BED, double-size, innerspring mattress, box spring, $40. TE 2-0578. A

SLIDE EQUIPMENT, slide changer, TDC Selectron; slide trays, 25, for 2"x2" slides, case; $10. NE 1-5998. A

CAR PARTS, 1936-56 Plymouth-Dodge 6s, distributor, Mallory dual-point, $10; headers, Fenton dual-exhaust, $5. FR 9-9616. A

SWIMMING POOL EQUIPMENT, pH test kit, $3; vacuum cleaner, Pool Jet, cost $75, $40. DA 3-3453. A

CAMERA, Argus C3, flash gun, case, $35. OS 5-8413. A

HUB CAPS, Chevrolet, 2 sets, 1959 & 1955, $5 set. OS 5-5813. A

TRAIN EQUIPMENT, HO-gage, engines, cars, parts, accessories, $50. Box 601. A

TOYS, tricycle, 16"; wooden horse, 21" spring-type; $12.50. DA 6-0340. A

RECORD CHANGER, Steelman portable, $10. DA 3-1479. A

STOVE, Buck apt-size gas, $25. OR 2-8307. A

Nolan—

(Continued from Page 1)

Collins is of the highest order and effectiveness," he stated. "Our customer relationships are improving every day. Our foreign market potential for the N-156F, and the unqualified acceptance of the T-38 by our own government are largely due to efforts of Corporate personnel.

Mr. Nolan complimented Division personnel on performance and low cost accomplishments.

He called for continuing and added efficiency and broader concepts in weapon systems proposal thinking.

He commented extensively on T-38 and N-156F prospects. "Production potential on these airplanes and versions of these airplanes can run into thousands of units," he said. "The foreign market for the N-156F looks extremely promising."

After his address Mr. Nolan conducted an extensive question and answer session.

Management Club members also saw a premiere of the new Corporate capability movie.

The NRC Mixed Chorus, under the able direction of Charles Nixon, raised the curtain officially on the Yuletide season with a program of Christmas classics.

CARL MENGERT TENOR SOLOIST SUNDAY AT 10

Tenor soloist for a special performance of the Christmas Oratorio by Camille Saint Saëns is Carl Mengert, group planner, Airborne Electronic Systems.

This seasonal chorale will be presented at the South Gate Methodist Church, 9605 State Street, this Sunday at 10 a.m.

All devotees of Saint Saëns' sacred music are invited to attend the performance.

FOR SALE

BICYCLE, boy's 26" liteweight English, 3-speed, w/hand brakes & riser bars, $25. PL 2-9597. A

MODEL RACECAR EQUIPMENT, engine, Dooling 61; wheels & tires, Dooling; diesel engine, ED Mk II 2-cc; gears, coils; $45. DA 3-5650. A

TIRE CHAINS, set, 7.10x15, reinforced-bar-type, $15. PA 1-8492. A

OUTBOARD ENGINE, Elgin 16-hp, new seals, gaskets, water pump assembly & prop, $50. OS 6-6360. A

BICYCLE, girl's 26", $18. EX 4-8559. A

RANGE, Sears tabletop-type, 4-burner, insulated oven, $10. OR 1-4051. A

FURNITURE, table, grey & chrome, 58"x 36", w/4 red chairs, $45; chair, green floral, $5. DA 4-6748. A

VACUUM CLEANER, Electrolux, $29. OS 6-6956. A

TABLE LAMPS, pr, turquoise base, $10. OS 6-1696. A

BICYCLE, Schwinn girl's 24", w/basket, $15. PL 6-9697. A

TOY, Wonder Horse, for 2- to 5-yr-old, $17.50. OS 6-2597. A

CAMERA, Anscoflex II reflex-type, $13. FA 8-2800. A

FURNITURE, modern, end tables, 3, limed oak; bench, limed oak; table lamps, 2; floor lamp; $50. PL 6-0015. A

RANGE, Western Holly 36", griddle, $20. FR 6-3295. A

OVERCOAT, man's size 42-44, $10. GR 7-1539. A

GIRL SCOUT UNIFORM, size 8, long sleeves, cap, belt, scarf, socks, $8. PL 5-6610. A

DODGE, 1942 4-dr, $50. OR 4-0441. A

TRAIN EQUIPMENT, Lionel twin-engine set, w/4'x8' layout board & track, $50. FR 4-3365. A

BICYCLE, 26" English racing-type, 3-gear, $20. PL 6-4417 before 4 p.m. A

ARCHERY EQUIPMENT, bow, Bear 50-lb; wooden arrows, 18, 26"; metal arrows, 12, 26"; broadheads, 5, 26"; $30. OR 2-3082. A

IRONER, Gladiron mangle-type, folds for storage, $20. GE 1-5969. A

ROLLER SKATES, woman's size 6½, $8. PL 9-6238. A

FIREPLACE ACCESSORIES, mantle, screen, andirons, electric logs, cost $125, $50. DA 4-1593. A

BICYCLE, boy's 26", balloon tires, $15. DA 6-4776. A

WANTED TO BUY

CAR MANUAL, 1951 Mercury. FR 9-9616. B

PIANO, spinet or bungalow-size. FR 5-6395. B

SPINET. DA 4-6748. B

DESK, school- & study-type. FR 6-0927. B

REVOLVER, .32 or .38. AX 5-2248. B

FOR TRADE

PIANO, upright, trade for maple dining hutch. FR 9-3003. C

PERSONALS

HEARTFELT THANKS to all Norcrafters for the many kindnesses & floral offerings extended to us at the death of our husband & father. L

MRS. GLADYS LEACH & FAMILY.

THANK YOU for your kind thoughts & expressions of sympathy at my husband's long illness & death. They are deeply appreciated & gratefully acknowledged. MRS. IVOS COLE & FAMILY.

FOR SALE OR TRADE

REFRIGERATOR, Coldspot 6 cu ft, $50 or trade. OS 5-5275. M

RANGE, O'Keefe & Merritt gas, automatic, glassed broiler, griddle, $50 or trade for Hollywood bed or convertible sofa. AX 3-1809. M

Northrop News

Vol. 17 No. 6

Northrop Field, Hawthorne, Calif.

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PUBLIC RELATIONS

NORTHROP DIVISION

CHARLES BARR, Director

CHARLES BRADFORD, Editor

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Palladium Christmas Partygoers Raise Hoopla

LACY LAURA—Featured vocalist with band of Jerry Gray, Laura Carroll swayed Norcrafters at Palladium.

HOOPSTERS HIP—Featured event of the Palladium party evening was hula-hooping contest. It's obvious that these adepts had practiced on sly. Peggy Bradford and Carol Martinez tied. Each was awarded bottle of champagne.

SANTA POINTS WAY—Just goes to show you—St. Nick knows his business. For the entire evening of December 6, he pointed out at the festive Norcrafters who wassailed Christmas 1958 at the annual party. Eddie Truax's group, in foreground, shared music marquee with Jerry Gray.

party pictorial

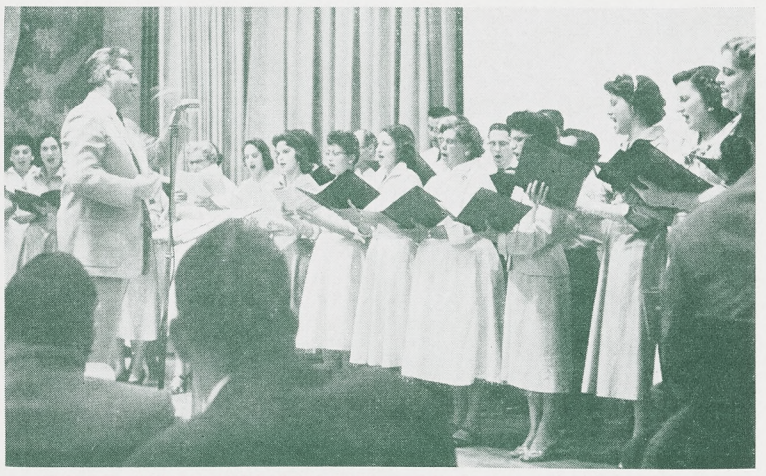
M-C Men Laud Nolan Talk

MANAGEMENT REPORT—Dick Nolan, Northrop Division vice-president and general manager, gets standing ovation on his first occasion to address the Management Club at their annual Christmas banquet. He has just been brought to the microphone by Charlie Davis, M-C president, right. See story, Page 1, for highlights of his talk.

Management Hosts, Toasts NRC Councils

OFFICERS RECEIVE — As NRC Council members and spouses arrived, they were greeted by President Whitley C. Collins, Company officers and their wives.

FESTIVE BOARD — Guests dined on sumptuous spread prepared and served by Fred Wolfe's cafeteria staff.



GOOD KING WENCESLAUS — NRC Mixed Chorus sets tempo of the season at Management Club meeting. Charles Nixon directs. From left, visible are Norcrafters Merle Brechler, Joyce Smith, Winifred Bandell, Charlotte Salomon, Dorothy Campbell, Jaye Roderick, Rita McClure, Doug Weeks, Lillian Reeder, Robert Darley, Commissioner Burt Bracher, Pat Frotton, Lowell Matthew, Jo Marrelli, Gordon Reeder, Warren Gearhart, Lois Cummins, Phylis Thomas, Audre Wilson. Chorale was ardently received.

DOLL DILLIES—Adjudged tops by Margit Fellegi, third from left, head designer for Cole of California: Elaine Tompkins, 1st, best dressed; Elizabeth Hall, 2nd, most unique; Carol Buckland, on behalf of Barbara Burkhart, 1st, most unique; Vivian Gordon, 2nd, best dressed; Margie Simpson, 3rd, most unique; and Elsie Nuckolls, 3rd, best dressed. Gals collected merchandise certificates and Spanish orphans will collect the dolls January 6. Winning El Segundo designers (not pictured) were, in best dressed category, 1st, Shirley Vickers; 2nd, Susan Buchanan; 3rd, Carolyn West; and, most unique, 1st, Blanche Draper; 2nd, Vina Erickson; and 3rd, Margaret Martin.

Tennis Club Nets High Score To Gross Two for Two—Salvo Tonight

The NRC Tennis Club, riding high after clobbering the competition in its first two industrial league matches, is whipping up a jubilant program for 7:30 this evening at the NRC Clubhouse.

Tennis pro Noel Brown is slated to speak on his favorite sport. Brown is National Public Parks Singles and Doubles champion and tennis program director for Youth Foundation.

Rounding out the evening will be a discussion of upcoming intramural tourneys for all proficiency levels.

But there'll be some talk of the past, too . . . All about how Northrop netsmen have thus far forehanded and backhanded their opponents into submission.

In their maiden industrial league match, they topped Ramo Wooldridge 12 to 6, with many tight ones keeping the over-all score from being more topheavy.

The team chalked up two in a row by whomping Hughes Aircraft. A clean sweep in the doubles contributed to the 7 to 2 conquest.

In both frays, the team was sparked by Roger Skinner, captain and tournament chairman, and top-seeded Bill Lurie.

BONUS RATES FOR PRO BOWL, L.A. OPEN, PACIFIC OCEAN PARK

Special discount tickets now available at all Personnel Activities offices are bound to entice pigskin and putting fans.

For fairway followers at the Los Angeles Open, December 31 and January 2, 3, 4 and 5, at the Rancho Municipal golf course, there are two slashed-rate options. A Norcrafter may attend all five days for $7, saving $11 under regular prices. The alternative is a two-day plan at $5, as against $8 without the discount. Ticket sales close December 23.

And, for devotees of grid play, pro style, discount exchange tickets for the Ninth Annual All-star Pro Bowl Game are theirs for the asking. This game will churn the Coliseum turf Sunday, January 11. Tickets offer $5 seats for $4.

No special interests are required for takers on the discount offer by Pacific Ocean Park in Venice, with its Banana Train and over-the-ocean bubble rides.

Coupons are available which may be exchanged at POP for discount books at $2.50 per adult, $2.30 per junior (ages 12 to 16), and $2.15 per child. This represents a 40 per cent saving.

Pacific Ocean Park will be open daily from noon until 10 p.m. through the holidays.

Star of Bethlehem Shines At Griffith Planetarium

Christmas Star-gazing is more than just a seasonal good thought for NRC Astronomy Clubbers.

Their fourth field trip to the Griffith Park observatory this Saturday, December 20, at 7:30 p.m., includes a visit to the planetarium. This month's show is appropriately, "Christmas Star."

Jim Stowe, commissioner, invites all celestial orb-watchers to attend. Details may be obtained by calling Personnel Activities, extension 2784.

NRC Good Time Table
January

For enrollment or information on activities listed below, call or contact Personnel Activities, Plant One, 2784. All clubs meet at NRC Clubhouse unless otherwise noted.

ARCHERY (days), Wes Williams
Meet Wednesdays, 7:30 p.m. Archery classes now in session. Demonstration shoot January 7.

ARCHERY (nights), Paul Randolph
Meet Wednesdays, 12:15 p.m.

ART CLUB (days), Forrest Ayrest
Meet in Annex Thursdays, 7 p.m. Models furnished by NRC. Sculpture classes Wednesdays, 7:30 p.m.

ASTRONOMY (days), Jim Stowe
Meet 2nd & 4th Mondays, 7:30 p.m.

BASKETBALL, George Forbes, jr.
League play at Leuzinger Hi Mondays & Thursdays, 6:30 p.m.

BIBLE STUDY, Roy Stahl
Plant I—Daily, 11:30-12:15, Tool Design Bldg; 11-11:45, 5566 Conf. Room. Plant II—Mondays & Thursdays, 12-12:45, Conf. Room 2.
Eng. Center—Daily, 12-12:45, Reliability Conf. Room.

BOAT CLUB, Ken Payne
Meet 1st Wednesdays, 7:30 p.m. Water Ski Club (days) meets 3rd Thursdays, 7:30 p.m.

BOWLING (days), Dave Carney

BOWLING (nights), Charlie George
Winter leagues now rolling.

BOY SCOUTS, Stan Morris
Sea Scouts, Intermediates, Cub Scouts. All Norcrafter boys welcome.

CAMERA CLUB (days), Fred Armstrong
Meet 1st, 3rd & last Wednesdays, 7:30 p.m.

CAMERA CLUB (nights), John Newman
Meet 1st and 3rd Saturdays.

CAMPING CLUB, Fred Brant
Meet 1st Mondays.

CHESS CLUB, Bill Henderson

GEM & MINERAL CLUB (days), Ray Cole
Meet 2nd Wednesdays, 8 p.m. Mineralogy classes Thursdays, 7-9 p.m.

GOLF (days), Ted Deguisne

GOLF (nights), Russ Munsen

GUN CLUB (days), Robert Raines
Meet 3rd Wednesdays, 7:30 p.m. Pistol shoot at Torrance January 10, 2 p.m. Rifle shoot at Torrance January 24, 1 p.m.

MIXED CHORUS, Burt Bracher
Meet Tuesdays, 7:30 p.m.

MODEL RAILROAD, Jack Wilson
Meet in Annex Wednesdays, 7-10 p.m. Visitors welcome. Need electricians, carpenters & scenic artists to help with new layout.

ORGAN CLUB, Ted Childs

PHILATELIC CLUB, Eugene Richardson
Meet 2nd & 4th Mondays, 7 p.m.

RADIO CLUB (days), Andy Dolak
Meet last Thursdays, 7:30 p.m. Radio code class meets Wednesdays, 7:30 p.m. NRC's station is W6VPZ.

RADIO CLUB (nights), Merwin McGrew
Meet last Thursdays, 1:30 p.m.

SKEET CLUB, Dan Kawashima
Meet alternate Saturdays at Long Beach Dominguez Gun Club on Artesia Blvd., 10:30 a.m.

SKI CLUB, Chuck Morse
Meet 2nd & 4th Wednesdays, 7:30 p.m.

SKINDIVING (days), Ralph Gonzales
Meet 3rd Wednesdays, 7:30 p.m.

SKINDIVING (nights), Lillian Kemble
Meet 3rd Wednesdays, 1 p.m.

SPORTS CAR CLUB, Jack Kirkpatrick
Meet 2nd Thursdays, 7:30 p.m.

SQUARE DANCING, George Sanborn
Beginners' class at Bret Harte Jr. Hi Fridays, 8-11 p.m.

SURF FISHING, John Pawlicki
Meet 1st Tuesdays, 7:30 p.m.

TABLE TENNIS, Robert Burke
New league after Christmas.

TENNIS, Ed Hummel
Practice & instruction at El Camino Jr. College Saturdays, 10 a.m.

TOASTMASTERS 212 (days), John Walker
Meet at Western Avenue Country Club Thursdays, 6:30 p.m.

TOASTMASTERS 1398 (nights), Verne White
Meet at Western Avenue Country Club Thursdays, 12:15 p.m.

TOASTMASTERS 2583 (days), Howard Cornelius
Meet at Kim's Restaurant Mondays, 6:15 p.m.

FOR THE LADIES

BOWLING (days)

BOWLING (nights), Mary Mimnaugh
Winter leagues now rolling.

GIRL SCOUTS, Dallas Vasquez
Mariners, Intermediates, Brownies. All Norcrafter girls welcome.

TOASTMISTRESS, Marge Gates
Meet in NRC Clubhouse Board Room 1st & 3rd Thursdays, 7 p.m.

RIDES WANTED

7:30 a.m. — 4:15 p.m.

(Zone 2)
VAN NESS & 108th ST., Inglewood. JUNE CURTRIGHT (1231-47758, ext. 2331). PL 6-7681. 3-2

(Zone 3)
NORMANDIE & 104th ST., Los Angeles. HANNAH OMAN (8913-49661, ext. 1281). PL 4-6818. 3-3

(Zone 4)
PAINTER & WHITTIER BLVD., Whittier. (Desire car pool.) G. F. FLOWERS (7620-10832, ext. 2158). OX 8-2663. 3-4

(Zone 5)
PALO VERDE & CONANT, Long Beach. (Desire car pool.) KARLA DIXON (9542-51034, ext. 2229). HA 9-7732. 3-5

(Zone 7)
MAIN & SEPULVEDA, Torrance. CAROLE BONDESEN (4300-56575, ext. 2664). TE 5-5063. 3-7

(Zone 8)
CRENSHAW & PACIFIC COAST HWY., Torrance. JOYCE EUBANKS (8911-52653, ext. 1530). DA 6-1667. 3-8

(Zone 10)
HERMOSA AVE. & 4th ST., Hermosa Beach. JEAN WILLIAMS (5400-50164, ext. 1331). FR 6-2503. 3-10

(Zone 12)
PACIFIC COAST HWY & SUNSET, Pacific Palisades. (Consider car pool.) C. W. McQUEEN (8930-47081, ext. 1386). GL 6-2559. 3-12

8:00 a.m. — 4:45 p.m.

(Zone 7)
CARSON & MAIN, Torrance. FLORENCE LATTER (9542-10274, ext. 781). 5-7

(Zone 8)
CRENSHAW & 167th ST., Torrance. J. R. SHIFFERD (5240-38664, ext. 2281). DA 9-3831. 5-8

(Zone 9)
CALLE MAJOR & CAMINO DE LA COLINAS, Redondo Beach. (Desire car pool.) H. F. DOSTAL (3620-33886, ext. 2570). FR 5-5204. 5-9

RIDES WANTED

8:00 a.m. — 4:45 p.m.

(Zone 12)
CENTINELA & JEFFERSON, Culver City. (Desire car pool; pass available.) HAL FISHER (3560-50302, ext. 463). 5-12

Miscellaneous — Split Shift

(Zone 4)
FIRESTONE & IMPERIAL, Norwalk. (Hours: 7:15 a.m.—4 p.m.) R. M. PROPPER (6110-56294, ext 3-661). 10-4

(Zone 13)
CENTINELA & LA BREA, Inglewood. (Hours: 7:15 a.m.—4 p.m.) BETTY BOLTON (6002 - 39521, ext. 3-525). OR 1-3645.

RIDES OFFERED

7:00 a.m. — 3:45 p.m.

(Zone 5)
ORANGETHORPE & WOODS, Fullerton. R. W. HARRISON (3373-32618, ext. 1579).

7:30 a.m. — 4:15 p.m.

(Zone 4)
PAINTER & WHITTIER BLVD., Whittier. (Desire car pool.) G. F. FLOWERS (7620-10832, ext. 2158). OX 8-2663. 13-4

(Zone 5)
PALO VERDE & CONANT, Long Beach. (Desire car pool.) KARLA DIXON (9542-51034, ext. 2229). HA 9-7732. 13-5

(Zone 12)
PACIFIC COAST HWY & SUNSET, Pacific Palisades. (Consider car pool.) C. W. McQUEEN (8930-47081, ext. 1386). 13-12

8:00 a.m. — 4:45 p.m.

(Zone 9)
CALLE MAJOR & CAMINO DE LA COLINAS, Redondo Beach. (Desire car pool.) H. F. DOSTAL (3620-33886, ext. 2570). FR 5-5204. 15-9

(Zone 12)
CENTINELA & JEFFERSON, Culver City. (Desire car pool; pass available.) HAL FISHER (3560-50302, ext. 463).

Stroke Misers on Links

GREEN'S DIFFERENT, STANCE STILL THE BEST—Displaying the form that clinched trophy-copping spots in the recent NRC golf championship playoffs are, from left, Clarence Olsen ners up. At right, Ted Deguisne, NRC golf day commissioner, surveys winning quartet. and Howard Cornelius, top team with low net; and Bill Shirreffs and Jay Wallace, run-

NORTHROP

Northrop News

Issued Every Two Weeks at Northrop Field, Hawthorne, Calif. Wednesday, January 14, 1959

NEWS BRIEFS

OPERATIONAL TESTING—Snark missile 3422, one of the birds assigned to Category No. 2 tests (E&ST) and launch by SAC at Cape Canaveral, has already undergone a thorough receiving inspection shakedown and this week will be in the countdown. Following the countdown a ten-hour simulated flight will be staged for further proof of reliability before shipment to the Cape. Each of these birds will undergo this fine-tooth comb scrutiny until each one is pronounced "sterile" . . . All findings will be fed into Snark Engineering, Manufacturing, Materiel, and Inspection and will become permanent procedure . . . Commenting on the test preparation, General Manager Nolan stated, "I wish to emphasize that in the SM-62 we have a fine design and that it is the only existing unmanned weapon system that can take part in intercontinental defense of this nation. All Norcrafters must be aware of this great and critical responsibility. In these checkouts, I must ask for great care, utmost attention to detail, and perfect workmanship. The team conducting the shakedown tests is made up of Florida people and key members from Hawthorne. Florida men were brought here especially for this duty. We have come through before on projects as critical as this one. We will do it again. I intend to personally be at the Cape for this important launching."

CORPORATE FINANCE—Indicating increased interest from national financial community, the New York Society of Security Analysts will hear Northrop President Collins at a luncheon meeting in New York on January 27 . . . Among topics to be discussed by Mr. Collins and other Corporate officers will be Northrop philosophy of seeking low-cost solutions to defense problems, as exemplified by N-156F-T-38 family of aircraft, and Company teamwork which has made possible continued earnings during recent period of lower sales volume.

(See NEWS BRIEFS, Page 2)

FEBRUARY 2 DATE SET FOR COMPANY NAME CHANGEOVER

Beverly Hills, Calif.—February 2 has been set as the date when Northrop Aircraft, Inc., will change its name to Northrop Corporation, it has been announced by President Whitley C. Collins.

At the same time Northrop Division will take the new name of Norair.

The new Corporate name, Mr. Collins explained, is in line with the Company's broadened scope of operations which includes guided missiles, target drones, space research projects, and electronic, electromechanical and optomechanical products—as well as aircraft.

"The present name dates from 1939, when the Company's business was confined to the design, manufacture and sale of aircraft," Mr. Collins stated. "Now our field of activity has broadened in many ways, and it will continue to be extended in the coming years. It is felt that the name Northrop Corporation is less restrictive and better suited to our future operations."

Changing the Northrop Division's name to Norair will further emphasize this Division's identity as a leading developer and producer of high-performance aircraft and missiles.

Scorpions, 54th FIS Topped ADC All-time Record

Led by their commander, Lt. Col. Alma Ross Flake, the 54th Fighter Interceptor Squadron with their F-89J Scorpions, shat-

(See SCORPIONS, Page 2)

T-38, N-156F Suppliers in Northrop Field Conference

An unique approach to the achievement of low-cost high-quality products will get under way at Northrop Division, January 19.

On that day the suppliers who will team with the Northrop Division to produce the T-38 and the N-156F will visit Northrop Field for an all day conference.

For the first time in industry history supplier teams on large weapon systems projects will meet at the outset of the contract in order to assure the customer that the end product will be as specified in all categories.

In commenting on the conference, Northrop Vice-President and General Manager Dick Nolan stated, "This is a highly significant get-together wherein Northrop Division and suppliers will thoroughly assess the job of producing these two new aircraft."

"Top objectives of the program are to highlight the need for constant attention to cost reduction, to emphasize the great potential of the Northrop family of lightweight aircraft, and to provide an opportunity to meet personally all those who will participate in this new and promising project."

The conference will be convened by Jack Hinchliffe, director, Materiel. Presentation talks will be given by Northrop officials President Whitley C. Collins, Cor-

(See SUPPLIERS, Page 2)

Air Force Selects "Talon" for T-38 Name

TALON—Ceremonies officially naming the T-38 "Talon" were held during holidays at ATC headquarters, San Antonio. "Talon", selected from over 5000 contest entries, was suggested by 1st Lieutenant Larry C. Hewitt, basic flight training instructor, Craig AFB, Alabama. ATC, Northrop cosponsored contest. Judges were Northrop Division's Mr. Nolan, Mr. Alison; Major General Carl A. Brandt, ATC vice-commander; General Thomas E. Moore, ATC chief of staff; Harrington Drake of Ruben H. Donnelly agency.

HIGH INTEREST — Lt. General Frederick H. Smith, ATC commander, presents Northrop Senior Vice-President Robert R. Miller with large volume of press clippings on the contest. Occasion was dinner honoring AF's Lieutenant Hewitt.

TEST PILOT—Lew Nelson, Northrop pilot who will fly "Talon," climbs aboard the newly christened airplane.

WINNER — Below is Lt. Hewitt who receives all-expense-paid vacation to area of his choice or a $1000 U.S. Treasury bond.

NEWS BRIEFS

(Continued from Page 1)

CUSTOMER RELATIONS—Colonel P. C. Droz and John T. Pantaz have joined Northrop Division Customer Relations department—Col. Droz, recently retired from the USAF where he was colonel and chief, Joint Plans Division, Directorate of Plans, Headquarters, USAF; Mr. Pantaz, from Caltech's Jet Propulsion Lab and Army Ordnance Procurement, Los Angeles Ordnance District . . . Col. Droz will be in charge of C-R planning; Mr. Pantaz will be Customer Relations representative on Army matters.

WORLD EVENTS—Accomplishments of Northrop operating Divisions will be displayed for International audiences this spring and summer by Company participation in two global aviation events—the World Congress of Flight in Las Vegas, Nevada, and the Salon Internationale de l'Aeronautique in Paris, France. Northrop Division, Nortronics and Radioplane products will be assembled in an indoor exhibit now being designed for use at those events. . . . The World Congress of Flight, scheduled for 12-19 April, will attract participation from U.S. and virtually all major foreign powers, including Russia, according to officials of Air Force Association, which is sponsoring group. . . . Paris show, in mid-June, is traditional European display held every other year. Although 1959 show is first in which Northrop has participated as a Company, the SM-62 Snark, exhibited by USAF at the 1957 Salon, ranked with Soviet jet transport as leading attraction of the show. . . . Corporate headquarters is coordinating Company participation in both events and President Collins will head Northrop task force presenting Company story.

ACCEPTANCE STANDARDS—Chairmanned by Wes Smith, Production Stores Branch, Materiel, a one-day extrusion symposium just before the holidays brought to Northrop representatives from Kaiser, Bridgeport Brass, Reynolds Metal, Alcoa, Harvey Aluminum, and Pioneer, as first step in establishing quality acceptance standards and nomenclatures for extrusions and other materials basic to aircraft construction. (See photos, Page 3.) . . . In outlining the objectives in the symposium, Bob Catlin, manager, Quality Control, stated, "Supersonics and the space age make it imperative that we clearly define to the mills requirements and specifications for materials in order that we may safely design for high speeds and extreme temperatures . . . The companies that attended were most cooperative . . . This symposium represents, as far as is known, the first attempt on the part of an aircraft manufacturer to help upgrade the raw product and spell out what is needed from the mills . . ."

Northrop-built Deceleration Track Retired with Honors

The closing ceremonies were held last month for the first test track ever built—the Air Force Flight Test Center's 2000-foot deceleration track at Edwards Air Force Base.

The AFFTC Deceleration Track was built in 1947 by Northrop, under contract to the Air Force. Although it was a daring concept in the mid-forties, track testing has developed to a useful test medium in the last decade and newly constructed facilities have made the original test track obsolete.

The installation was particularly famous as the location of tests conducted by Colonel John P. Stapp to determine human deceleration limits. In the early life of the track Colonel Stapp and his capable assistants subjected themselves to roaring, fiery rocket sled rides down this 2000 feet of precision-aligned standard-gage railway track.

These Air Force pioneers in the realm of life science studies gathered and established information, hitherto unknown, regarding the deceleration of gravity limits of human endurance.

Suppliers—

(Continued from Page 1)

porate Senior Vice-president, T. V. Jones, Northrop Division Vice-president and General Manager Dick Nolan, Vice-presidents George Douglas, Engineering, Bob Lloyd, Manufacturing, and John Alison, Customer Relations, and PACE Program head, D. N. Petersen.

Highlight address of the conference will be a luncheon talk by Lt. General C. S. Irvine, deputy chief of Staff, Materiel. General Irvine who has been keenly interested in the T-38 since inception, was a principal figure at rollout ceremonies August 15. Stated General Irvine on that occasion, "The T-38 is the finest bit of training equipment the Air Force has created . . . This airplane will train pilots for Century Series aircraft yet unborn. It is a great opportunity for the people who will build it."

The conference will be concluded by a Division tour of the areas of Manufacturing R&D, PACE operational area, tape-controlled milling, Engineering and Science Center, Environmental Lab, Chem-milling operational area, and the T-38 hangar.

A special issue of the Northrop News covering the event will be mailed to all participants after the conference.

brain / drain

Now that television westerns are waning in popularity, the Northrop News *helps enliven the evenings with a carefully posed puzzle series to test logic and math capability—with the logic emphasized.*

In the following issue, the News *will print the first solution received by mail. Name and organization number should be included with the solution.*

Imagine we have a piece of string 25,000 miles long—just long enough to exactly encircle the globe at the equator. We take the string and fit it snugly around . . . over oceans, deserts and jungles.

Unfortunately, when we have completed our task, we find that there has been a slight mistake in manufacture of the string. It is just one yard too long.

To overcome the error, we decide to tie the ends together and to distribute this 36 inches evenly over the entire 25,000 miles. Naturally (we imagine) this will never be noticed.

However, how far does the string actually stand off the ground at each point, merely by virtue of the fact that it is 36 inches too long?

BBSF Classified Ads

BBSF classified ad service is provided free of charge to all Norcrafters.

Items advertised in "For Sale" and "For Sale or Trade" categories are limited to a maximum of $50. Price must be stated.

Box numbers will be provided for Norcrafters who do not have home phones or who do not wish calls. Replies to box numbers are to be in writing and sent to the News Office.

Ads for agencies, commercial enterprises and private businesses are not accepted.

Deadline is noon Monday, nine days before publication.

FOR SALE

TONNEAU COVER, 1957 Ford, $25. FR 4-4140. A

PRECISION TOOLS, satin finish; micrometer, Starrett 0-1", 0.010"-calibrated, $15; calipers, Helios vernier 6", $13.50. PL 5-9075. A

TRAIN EQUIPMENT, engine, diesel-type, 5 cars; smaller train; $15. OR 8-0250. A

SEWING MACHINE, 1958 Adler 152 portable, attachments, $50. FR 4-6003. A

REFRIGERATOR, Servel 9.3-cu ft, $45. PL 7-1184. A

WASHER, Norge automatic, $50. DA 3-1626. A

COAT, woman's size 10, Japanese mink, cost $550, $50. OL 6-2735. A

CAR ACCESSORIES, driving light, chrome, 7" diameter, 110,000 candlepower, 6V, w/mounting bracket & wire, cost $12.95, $7.50; backup lights, 2, w/switch, hardware & installation instructions, cost $12.50, $6. FR 8-2794. A

TRAILER, 2-wheel, metal, custom-built, 18"x48"x60" bed, w/extra hardboard 48"x60"x72" bed, 4.00x8 tires, lites, $35. DA 9-9464. A

SKI EQUIPMENT, skis, steel runners, w/poles; boots, man's size 9; toboggan, 6'; $35. Box 701. A

BICYCLE, boy's 26", $15. DA 6-7232. A

TRAIN EQUIPMENT, American Flyer, engine, 5 cars, oval track, xformer, tunnel, water tank, gas station, $20. DA 9-1672. A

STOVE, Magic Chef 4-burner, $25. FR 9-9214. A

SKI EQUIPMENT, skis, Paris, w/A&T binders, $15; boots, size 8½, $5; poles, $3. FA 8-5731. A

RANGE, Western Holly 36" tabletop-type, white, $35. OS 5-1842. A

BICYCLE, girl's, 26". $23. FA 8-3306. A

FURNITURE, desk, child's rolltop-type, w/chair, $15; corner cabinet, scalloped front, doors on lower half, $20. DA 9-6039. A

STOVE, apt-size gas, $15. AX 3-8452. A

GOLF CLUBS, set, 3 woods, 9 irons, $40. FR 6-5563. A

TYPEWRITER, Remington standard, $30. FR 6-0674. A

CRIB, Babyline, w/innerspring mattress, 4 yr old, $22.50. TE 3-7208. A

CAMERA, Argus C3, viewfinder, flash, leather case, $40. OS 6-1888. A

RANGE, Roper gas, $50. FR 6-5984. A

XFORMER, Trainmaster TW 175-watt 116V 60-cps, w/direction changer, whistle & voltage increaser, for medium large to large train set, $10. DA 6-4776.

FORD, 1940 convertible, seat covers, extra engine & transmission, $50. FR 2-0509. A

DRAPES, 2 pr, bamboo, traverse rods, $12. FR 9-2659. A

BENCH SAW, 6", $25. PL 5-7521. A

FURNITURE, lite oak; bed, ¾-size, box spring, mattress, $15; table, 4 chairs, $15; kitchen table, grey & chrome, $10. OS 5-9054. A

STOVE, gas, clock, timer, lite, $35. FR 5-0867. A

COFFEE TABLES, black, $3 ea. GR 7-1539. A

CLARINET, metal, $45. FR 6-8670. A

TORCHIER LAMP, 3-way switch w/100-, 200- & 300-watt bulb, $15. EX 8-4032. A

PLYMOUTH, 1953 convertible, $50. DA 3-5492. A

TYPEWRITER, Remington portable, $35. RI 8-4858 after 9 p.m. A

FURNITURE, couch, green w/metallic gold, $25; bedroom chair, green floral, $5; desk, child's, $3. DA 4-6748. A

TELEPHONES, 3, old wall-type, $15 ea. OR 7-6941. A

RADIO, Heathkit, 6-transistor portable, 4"x6" speaker, $25. VE 8-2587. A

APPLIANCES, Westinghouse, washer, dryer, $35. GL 6-8737. A

WANTED TO BUY

FORD, 1951, sound, consider other make. Box 703. B

FUR COLLAR, Peter Pan-style, silverblu mink or black fox. FR 9-9616. B

BICYCLE, boy's 26", $5. GA 7-4370. B

FOR TRADE

HOUSE TRAILER, 1958 Flamingo, 8'x36', pink & white, matching alum. awning, trade equity for furniture. OS 9-3536. C

TRAILER, teardrop-type, trade for transportation car. OS 5-0792. C

TENOR SAX, Selmer, w/case, trade for baritone sax w/case. Box 702. C

FREE (to be given away)

DOG, Keeshound pedigreed. EX 9-2260.

CHILD CARE OFFERED

CHILD CARE, hot meal, 18-mo-old children & older, licensed, near Northrop. OS 5-7088. G

PERSONALS

THANK YOU for the thoughtfulness & kindness shown me & my sons by my late husband's coworkers. MRS. HARLIE YORK & SONS. L

FOR SALE OR TRADE

SECTIONAL, 3-pc., cost $250, $50 or trade for power tools. FR 6-8005. M

New Emergency Plan For Hawthorne Area Issued

Standard Practices Procedure 11-4, published on December 9, 1958, is of special significance to all Norcrafters. The new procedure is the emergency plan for the Hawthorne complex, including Nortronics facilities, and governs the action of supervision and each individual Norcrafter during any period of impending or actual emergency or disaster.

The plan has been prepared with the purpose of affording maximum protection to personnel, insuring the safeguarding of classified material, and preventing or controlling damage to Northrop and Government facilities or property.

Responsibility for administration of the program is charged to Security and Protection Services, Paul H. Crews, director. This organization will assume control of all facilities, subject to the approval of General Manager Nolan, in times of major emergency.

Organizations participating in the emergency control program in support of coordinated actions in emergencies are Medical, Plant Engineering, Nuclear Technology, Safety, Industrial Relations, Traffic Administration, Transportation, Flight Support Operations, Public Relations, Northrop Division; and Radio and Radar—Nortronics Division.

It's NORAIR February 2

AIR FORCE PERSONNEL START PROPERTY MANAGEMENT GROUP

Air Force employees in the Los Angeles area took a giant step toward closer cooperation and understanding between Governmental and industrial property officials recently with the organization of the Department of Defense Industrial Property Management Association.

Believed to be the first of its kind in the U. S., the group was formed under the leadership of President John J. Brosnan, chief, Industrial Property Division of the Los Angeles Air Procurement District and formerly of Northrop AF Plant Representative Office.

Membership to date includes AF property personnel from Wash., D.C., Hqs., Air Materiel Command, Ohio, Phoenix, Ariz., San Diego, Edwards AFB, Vandenburg AFB, San Bernardino Air Materiel Area and L. A. Air Procurement District. Invitations are open to property administrators of Air Materiel Command, Dayton, Ohio, other AF Commands and members of all other services.

In addition to President Brosnan, other officials elected are Tom R. Gilchrist, Office of AF Plant Representative, Northrop, vice-president; Rose Richkind, Office of AF Plant Representative, Hughes, secretary-treasurer; and Roy R. Crow, LAAPD, sergeant at arms.

Scorpions—

(Continued from Page 1)

tered the existing all-time global Air Defense Command record, while taking first place in the just completed 21-day exercise conducted at the National Air Defense Command Rocket Range at Vincent Air Force Base, Arizona.

From the opening day of the missile meet, the 54th was confident and determined to better the records set by the 47 Air Defense Command squadrons which had preceded them on the Yuma firing range. And better them they did.

So completely overwhelming was their victory that, in compiling their score, the 54th toppled a fantastic total of 28 previous all-time Air Defense Command individual records.

Said Major William R. Williamson, evaluator and director of operations, 4750th Air Defense Wing: "Why bother to count them? You've broken every record we've got here." Such a feat had never before been accomplished by any other single ADC squadron.

Northrop News

Vol. 17 No. 7

Northrop Field, Hawthorne, Calif.

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Published every other Wednesday

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NORTHROP DIVISION

CHARLES BARR, Director

CHARLES BRADFORD, Editor

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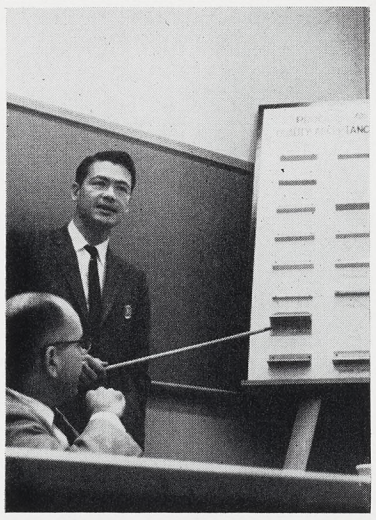
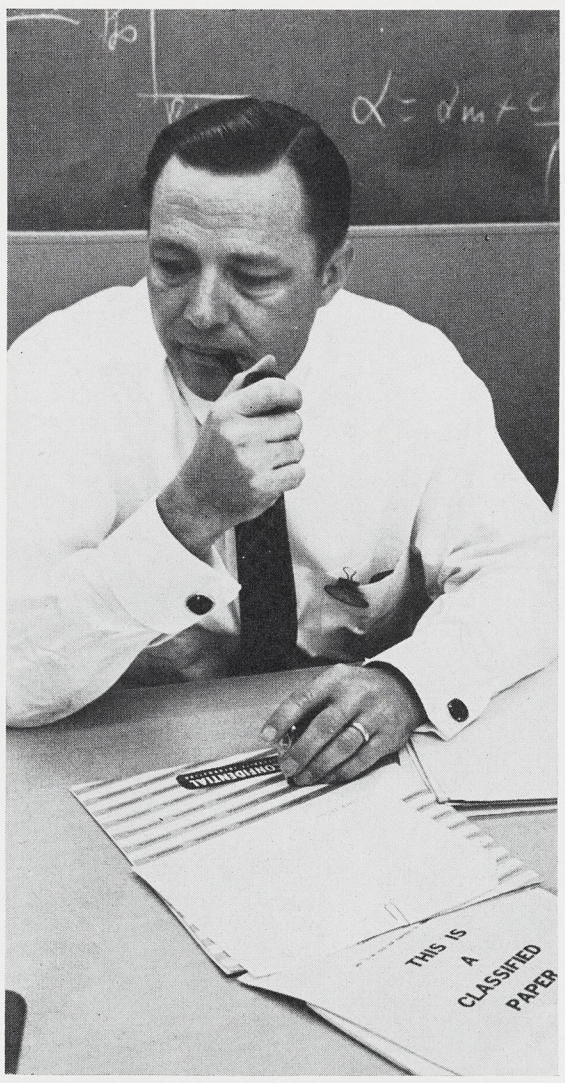


QUALITY SYMPOSIUM — Ed Regalado, general supervisor, Quality Control Laboratory, points out to assembled representatives from aluminum mills optimum quality standards. Seated is Dan O'Halloran, chief, Quality Control.

FIRST OF ITS KIND—First known meeting of its kind, extrusion symposium at Northrop drew reps from Kaiser, Alcoa, Reynolds Metal, Harvey, Pioneer, Bridgeport Brass. From left, facing camera, are Norcrafters Wes Smith, supervisor, Production Stores Branch, Materiel; Murray Colwell, general supervisor, Receiving Inspection; Ed Regalado; Bob Catlin, manager, Quality Control; Dan O'Halloran; Jim Rohland, assistant to the director, Materiel. Study analyzed space-age requirements. (See story, Page 1.)

Northrop News Pictorial

TOP ADC SQUADRON—Lt. Colonel Alma R. Flake, commander, 54th Fighter Interceptor Squadron, and Captain Leonard L. Melton, jr., squadron radar observer, return from one of the successful missions registered while taking first place in the just completed 21-day exercise conducted at the National Air Defense Command Rocket Range at Vincent Air Force Base, Arizona. The 54th broke the existing all-time global Air Defense Command record in this meet. (See story on Page 1.)



ANALYST — Bill Taylor, Weapon Systems Analysis, contemplates while studying fighter bomber-intercept methods to be incorporated in report. Geometry on blackboard describes fighter intercept motions.

TRACKING—Dave Lueck, Product Planning, and Charlie Johnson, Weapon Systems Development, track earth satellite orbits.

THE STORY—Colonel Beck presents Snark brochure to Mrs. Rozner, wife of Major Rozner, squadron training officer. Brochures, one for each wife, were personalized and contained SAC-Snark action of the husband.

WIVES' DAY—Colonel R. W. Beck, SAC commander, 556th Snark squadron, invited wives of all squadron and Northrop proficiency team men to meeting for chat about how life will be on a missile base. Colonel Beck humanely believes that the morale of his people is largely dependent on the attitude of the women behind them. Meeting was held in Patrick NCO mess at Patrick Air Force Base.

NRC Sports Car Club Rolls Out diVersified Fun Rallye

The NRC Sports Car Club will roll out the first of 1959's special events this Sunday, January 18. Ramble in Rhyme, a fun rallye, will utilize riddles and quizzes to test memory and sharpness of perception.

Participants will embark from parking lot H, Crenshaw and 120th Street, starting at 8 a.m. The duration of the rallye is scheduled for three and one-half hours and the finish is to be less than one hour's drive from the starting point.

Food, refreshments and bowling will be available at rallye's end.

Computers, watches or other scientific bric-a-brac are surplus equipment on this jaunt, according to Rallyemaster Russ Smith. Sharp eyes get the trophies.

Entry fee will be $1.50 per car. Forms may be picked up at Personnel Activities, Plant One.

Travel Club Swings Around Europe in Tour

A continental tour is the first one scheduled by the newly formed NRC Travel Club.

The 23-day spring tour covers nine European countries—England, Holland, Germany, Switzerland, Austria, Liechtenstein, Italy, Monaco and France.

Package cost of $770 includes TWA flights to and from Europe, all transportation while there, hotels, most meals, sightseeing, transfers, porterage, tips, and experienced tour manager.

Next Travel Club meeting is Monday, January 26, 7:30 p.m., at the NRC Clubhouse. Further details of "grand tour" will be discussed, plus other trips on tap.

Agate Expert Talks to Gem, Mineral Club

The NRC Gem and Mineral Club will present Mrs. Ruth Kirkby, nationally known archaeologist, explorer, writer and lecturer, as guest speaker at tonight's 8 p.m. meeting.

According to Ray Cole, commissioner, this evening's meeting will be held at the NRC Clubhouse Annex.

Mrs. Kirkby will present a program devoted principally to amber, including the exhibition of many rare and unusual types of this fossilized material.

The next Gem and Mineral Club field trip will be held on January 24 and 25 at Wiley Well, which is located south of Highway 70 between Desert Center and Blythe. Fire agates, quartz nodules, quartz geodes and seam quartz are plentiful in the area.

Maps will be available at the Personnel Activities office and at tonight's meeting.

birdieswatters...

Yearend Open Results

Low Gross . . .
Reed Hays, 148

Low Net . . .
Snuffy Smith, 125

1st Flight

Low Net . . .
Tom Bullock, 133
Red Grimsley, Carl Miller and Brad Richardson, 137

2nd Flight

Low Net . . .
Ralph Shafer and Ron McNamara, 134
Mike Chiappetta, 135

Low Gross . . .
Leo Baker, 159

3rd Flight

Low Net . . .
Bill Brown and Harry Clark, 137
Keith Emberson and Tom White, 138

Low Gross . . .
Joe Seman, 166

4th Flight

Low Net . . .
Ted Abeyta, 139
Bob Escobedo, 141
Dale Huss, 143

Low Gross . . .
Al Ryan, 175

5th Flight

Low Net . . .
Paul Margetan, 140
Bill Coughlin, 144
Dick Coffey, 146

Low Gross . . .
Ralph Goodall, 178

BILL LURIE COURTS WAY TO HONORS IN AMATEUR TENNIS

Bill Lurie, Manufacturing engineer, won the recent Fifth Annual Racquet Club Invitational Senior Men's Tennis Championship at Palm Springs. He defeated Bill Robertson of Los Angeles in straight sets—6-0, 9-7.

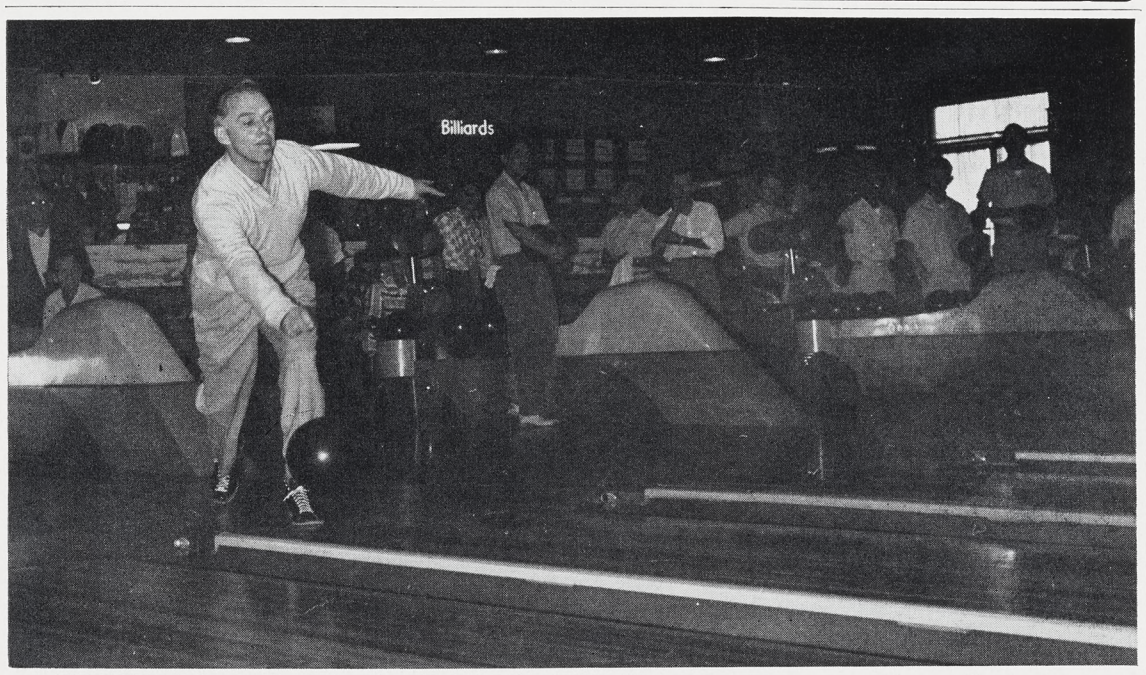
Bill further distinguished himself by winning second place in the National Senior Hardcourt Tennis Tournament at La Jolla. This latter accomplishment was all the more remarkable because his opponent was top-seeded Gardnar Mulloy of Miami who, for many years, has been rated as one of America's finest tennis stars. Mulloy's winning margin over Norcrafter Lurie was 6-4, 6-1.

The honors garnered by Bill Lurie were coincident with the seasonal activation of the NRC Tennis Club under the guidance of Commissioner Ed Hummell. The Club held its first formal meeting just prior to the holidays and was honored by the presence of tennis star Althea Gibson, women's World's Amateur Champion.

During the business portion of the meeting, the group decided on a long-range program, including a strong campaign for maximum membership, a junior development program, and several social events.

The next meeting of the Tennis Club is scheduled for early in February on a date to be announced. All those interested in participation should contact Don Greco, Personnel Activities, extension 2784.

NETTING PLAUDITS—Film star Bob Wagner, right, congratulates Norcrafter Bill Lurie on winning Palm Springs meet. (See above.)



IN THE SLOT—Rolling the first ball in the NRC Christmas tourney is Harry Clark, Personnel Activities. According to ABC, Northrop's annual yearend competition is the largest industrial tenpin tournament west of Chicago. This year was no exception. Tabulated below are winners in the team, individual and doubles classifications.

Tops in Christmas Tenpin Tourney

TEAMS

Men 2991	*Women* 2902	*Mixed* 2898
Jack Ryan, captain	Lil Brown, captain	Ray Hofius, captain
Carl Manson	Carol Foster	Fred DiPaula
Tris Jacobs	Corinne Davis	Lucille Beitzell
Maury Thews	Vi Foster	Jeneanne Rice
Bob Bloomhurst	Elaine Struz	William Baker

DOUBLES A

Men ..... Chuck Lowe, Carl Miller
Women ..... Carol Foster, Lil Brown
Mixed ..... Drexell and Billie Carlson
Married ..... Donald and Jane Schulke

SINGLES

Men ..... John Turnbull, 686
Women ..... Lil Brown, 630

ALL EVENTS

Men ..... Carl Miller, 1854
Women ..... Elaine Struz, 1786

DOUBLES B

Men ..... Bill Stipham, Dearle Taylor
Mixed ..... Garvice Tate, Donna Stinson
Married ..... Charles and Dorothy Fleming

HI SCRATCH GAME

Men ..... Bill Baker, 225
Women ..... Lil Brown, 245

HI HANDICAP GAME

Men ..... John Turnbull, 253-14-267
Women ..... Nellie Elstran, 240-26-266

RIDES WANTED

7:00 a.m. — 3:45 p.m.

(Zone 4)
PASS & COVINA RD. & VALLEY, La Puente. (Established car pool; via Puente Ave., San Bernardino Frwy., Harbor Frwy., Imperial.) L. A. DICK (7721-26691, ext. 2054). ED 6-8285.

(Zone 9)
COMPTON BLVD. & 154th ST., Lawndale. KATIE RHODES (5503-18245, ext. 2681).

PALOS VERDES BLVD. & SEPULVEDA, Torrance. (Consider car pool.) JOE DARATA (5240-16464, ext. 500). FR 5-7441. 2-9

(Zone 10)
PALM & ROSECRANS, Manhattan Beach. TED NORMAN (5508-19813, ext. 1820). FR 6-9175. 2-10

7:30 a.m. — 4:15 p.m.

(Zone 5)
GRAND & LINCOLN, Anaheim. (Have B pass.) W. A. DAY (8920-27542, ext. 1564). JA 7-4270. 3-5

CONANT & PALO VERDE, Long Beach. (Established car pool.) KARLA DIXON (9542-51034, ext. 1229). HA 9-7732. 3-5

(Zone 8)
AVE. B & SEPULVEDA, Torrance. DOLORES MARINO (5141-50204, ext. 505). 3-8

(Zone 13)
SANTA MONICA BLVD. & SEPULVEDA, West Los Angeles. G. G. IVANOFF (5211-56577, ext. 2451). GR 9-6292. 3-13

8:00 a.m. — 4:45 p.m.

(Zone 1)
SANTA MONICA BLVD. & WESTERN, Hollywood. (Consider car pool; via Wilton, Wilshire, Crenshaw.) HAROLD GREER (3241-53657, ext. 2775). HO 4-6094. 5-1

(Zone 2)
LAKE & WALNUT, Pasadena. (Established car pool.) W. B. BROWN (3210-29692, ext. 2014). SY 4-3008. 5-2

(Zone 3)
IMPERIAL & VAN NESS, Los Angeles. VIRGINIA EASTMAN (1421-53703, ext. 1811). 5-3

(Zone 9)
CATALINA & TORRANCE BLVD., Redondo Beach. (Consider car pool.) D. N. HASKELL (3244-47741, ext. 2775). FR 6-5563. 5-9

(Zone 12)
CENTINELA & JEFFERSON, Culver City. (Desire car pool; pass available.) HAL FISHER (3566-50302, ext. 463). EX 1-1869. 5-12

(Zone 13)
BARRINGTON & OLYMPIC, West Los Angeles. H. L. KLEINERT (3560-55194, ext. 2767). GR 3-1716. 5-13

RIDES WANTED

8:00 a.m. — 4:45 p.m.

(Zone 13)
SEPULVEDA & VENTURA BLVD., Sherman Oaks. (Established car pool.) F. J. KRATZ (5142-31580, ext. 1761). ST 9-9648. 5-13

3:45 p.m. — 12:15 a.m.

(Zone 10)
MANHATTAN BEACH BLVD. & RINDGE, Redondo Beach. DOROTHY MIDDLETON (5351-51201, ext. 1658). FR 6-2300. 6-10

RIDES OFFERED

7:00 a.m. — 3:45 p.m.

(Zone 4)
PASS & COVINA RD. & VALLEY, La Puente. (Established car pool; via Puente Ave., San Bernardino Frwy., Harbor Frwy., Imperial.) L. A. DICK (7721-26691, ext. 2054). ED 6-8285. 12-4

(Zone 9)
PALOS VERDES BLVD. & SEPULVEDA, Torrance. (Consider car pool.) JOE DARATA (5240-16464, ext. 500). FR 5-7441. 12-9

7:30 a.m. — 4:15 p.m.

(Zone 5)
GRAND & LINCOLN, Anaheim. (Have B pass.) W. A. DAY (8920-27542, ext. 1564). JA 7-4270. 13-5

CONANT & PALO VERDE, Long Beach. (Established car pool.) KARLA DIXON (9542-51034, ext. 1229). HA 9-7732. 13-5

8:00 a.m. — 4:45 p.m.

(Zone 1)
SANTA MONICA BLVD. & WESTERN, Hollywood. (Consider car pool; via Wilton, Wilshire, Crenshaw.) HAROLD GREER (3241-53657, ext. 2775). HO 4-6094. 15-1

(Zone 2)
LAKE & WALNUT, Pasadena. (Established car pool.) W. B. BROWN (3210-29692, ext. 2014). SY 4-3008. 15-2

(Zone 9)
CATALINA & TORRANCE BLVD., Redondo Beach. (Consider car pool.) D. N. HASKELL (3244-47741, ext. 2775). FR 6-5563. 15-9

(Zone 12)
CENTINELA & JEFFERSON, Culver City. (Desire car pool; pass available.) HAL FISHER (3566-50302, ext. 463). EX 1-1869. 15-12

LINCOLN & MANCHESTER, Playa del Rey. I. SHERLOCK (3465-34690, ext. 1562). EX 8-4032. 15-12

(Zone 13)
SEPULVEDA & VENTURA BLVD., Sherman Oaks. (Established car pool.) F. J. KRATZ (5142-31580, ext. 1761). ST 9-9648. 15-13

Northrop News
NORTHROP DIVISION
Issued Every Two Weeks at Northrop Field, Hawthorne, Calif. Wednesday, January 28, 1959

Top Men of 161 Suppliers Attend T-38 Symposium

Northrop Division was host last week to an enthusiastic high-interest meeting of companies that will share in building the T-38 and N-156F aircraft.

One hundred sixty-one firms, of which 101 were in the small business category, sent their top executives for the day-long symposium on the two projects.

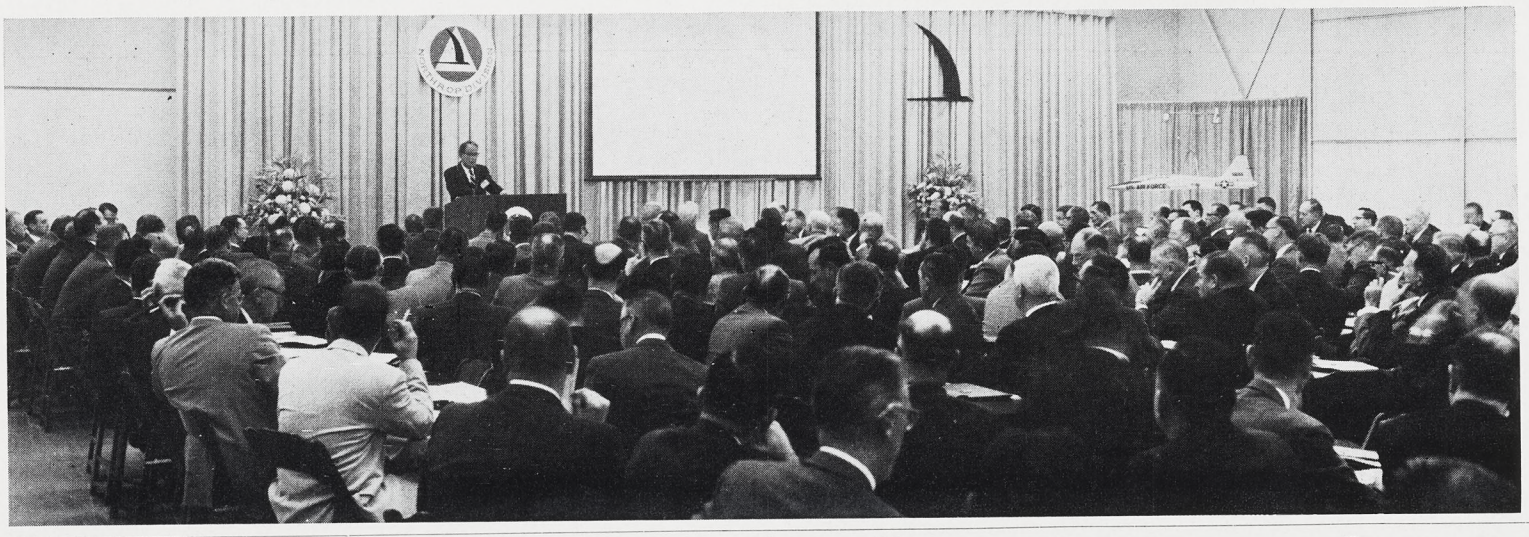
Many Northrop officials were on hand to greet the visitors. Heading Company hosts were President Whitley C. Collins; Northrop Vice-president and General Manager Dick Nolan; Senior Vice-presidents Robert R. Miller and T. V. Jones; P. W. Timberlake, Corporate vice-president, Organization; Irving Roth, Corporate vice-president, Finance; Division officers — Vice-presidents John Alison, Customer Relations, George Douglas, Engineering, Al Morgan, Contracts and Services; Dan H. Hill, treasurer; George Gore, general counsel; and, as symposium chairman, Jack Hinchliffe, director, Materiel.

Lt. General Clarence S. Irvine, Air Force deputy chief of staff, Materiel, who flew from the Pentagon especially to attend, stated, "Such meetings as this can only result in progress. This is communications to the people who will do the work. This is the democratic way of doing things. It is smart business. It is the indication of an attitude that can only produce a fine product."

Attending from financial circles was James P. Mitchell, vice-president, Aviation Division, Chase Manhattan Bank.

Donald McLarnan, regional di-

(See T-38 TEAM, Page 2)



PENTAGON, WALL STREET—General Manager Dick Nolan, President Collins, Lt. General Clarence S. Irvine, deputy chief of staff, Materiel, and James P. Mitchell, vice-president, Aviation Division, Chase Manhattan Bank, New York, discuss T-38 outlook. General Irvine was featured symposium speaker. See story.

WELCOME—Jack Hinchliffe, director, Materiel, greets visitors as first order of business at T-38 symposium.

NORTHROP

NEWS BRIEFS

PACE IN FINANCE—Dave Peterson of the PACE program reports that PACE effort findings in the Finance Division are remarkably high. That department's initial rating was 80 per cent. As of now, all organizations are from 97 to 100 per cent, with two organizations consistently recording a perfect score.

AIR FORCE OFFICE—Colonel H. T. Morris, Air Force plant representative, has announced plans for a series of weekly presentations to his Air Force staff by Northrop key people on this Company's operations, capabilities and future plans . . . Dick Benjamin, Customer Relations, Northrop Division, has formulated the presentation agenda . . . Selected topics will be the Northrop Corporation's new capability movie, the N-156F, T-38, PACE and Target Cost System programs, manufacturing and engineering capabilities, and others . . . "In my opinion," stated Colonel Morris, "such a series will bring about a better appreciation of the contractor's viewpoint and will go a long way to develop team proficiency between our two agencies . . ." Northrop participants presently scheduled are Vice-presidents John Alison, George Douglas, Bob Lloyd; key management and program men—Jack Mannion, Tom McCarthy, C. R. Gates, Dick Benjamin, George Mangurian, Welko Gasich, W. E. Woolwine, Milt Kuska, Paul Wierk, Moke Ross, J. D. Matthews, George Nichols, John Van Hamersveld, Dave Beck, Arch Wallen, Jack Hinchliffe, Bob Catlin, Dan O'Halloran, Jack Young, and John Martin.

T-38 STATUS—First airplane is complete and awaits completion of engine tests before transfer to Edwards . . . The program on the static test T-38 airplane is now under way at Northrop Field and will continue for approximately one year. It will be tested to simulate loads from all expected flight and landing conditions. (See News Briefs, 5 November 1958.) . . . First T-38A is 40 per cent complete and this program is advancing rapidly. Pilot line tooling, for most part, is proved and accepted.

STUDY—Treasurer Dan H. Hill announces that a study is now under way to establish targets for cost of hourly labor rate averages in all departments. Findings will assist in controlling contract costs within limits of negotiated bids. It is determined that when personnel count goes down, rates go up. Rates of pay and longevity are closely factored. Information will be used to assist in formulating realistic predicted costs.

AIR FORCE INDUSTRIAL REVIEW — Major General P. H. Robey, commander, Ogden Air Materiel Area, and a staff of specialists will visit Northrop on or about 2 Febru-

(See NEW BRIEFS, Page 2)

Collins Stresses Low-cost Defense In Talk before Security Analysts

Speaking before the New York Society of Security Analysts Tuesday, President Whitley C. Collins emphasized the need for low-cost solutions to defense problems. (See News Briefs, January 14.)

Stated Mr. Collins, "As you are doubtless aware, our national defense faces a difficult and perplexing dilemma. On the one hand, the Communist bloc poses a sustained threat to our security . . . and the tidal wave of technological progress that engulfs us impels a constant striving for maximum performance in our defensive weapon systems.

"On the other horn of the dilemma, the nation must maintain a sound national economy protected against the erosive effects of inflation.

"We concluded, therefore, that a promising way out of our dilemma lies in the use of our creative talents and ingenuity to select the solutions that yield the best defense in relation to cost.

"As a Company, we have been striving for products that will deliver the necessary performance with a degree of simplicity and at a level of cost that spells feasible procurement, operation and

(See COLLINS, Page 2)

MONDAY'S THE DAY FOR NAME CHANGE TO NORAIR

This Monday represents a significant milepost for thousands of Norcrafters. Northrop Division, after having been known for nearly two decades by that name and as Northrop Aircraft, becomes Norair, a Division of Northrop Corporation.

General Manager Dick Nolan points out, however, that Norair is not a new name. It has been in existence for many years as the cable address of Northrop Aircraft and, in that context, is known around the world.

The cost in realigning and bringing up-to-date the name structure is negligible. Unknown to many Norcrafters is the fact that the Divisional inventory is on a three-month basis. The vast majority of forms and stationery supplies are reordered quarterly.

Existing supplies will be overprinted or used as is.

All Norcrafters can assist in establishing Norair as the new Division name by explaining to friends and business acquaintances the change ramifications.

February 2 . . . it's Norair.

Thomas V. Jones To New Seat on Northrop Board

The board of directors voted recently to increase its authorized membership from 11 to 12 and elected Thomas V. Jones, senior vice-president of the Corporation, to the newly created seat, according to announcement by President Whitley C. Collins.

Mr. Jones, a graduate of Stanford University, has been with Northrop since 1953. He was appointed deputy chief engineer in 1954 and in 1956 was named director of development planning.

He was elected a Corporate vice-president in 1957 and named senior vice-president last year.

Retirement Plan Credits Issued with Friday's Checks

The Northrop Retirement Plan's annual statement of individual personnel credits will be issued at all Divisions with paychecks this Friday, January 30, it has been announced by Irving Roth, Corporate vice-president, Finance.

The report will include for the first time Norcrafter credits for the fiscal year 1957-58 under the new variable portion of the plan approved last year and retroactive to August 1, 1957.

Variable credit units for this first year have a par value of $1 each. Value is expected to follow economic trends and the value and earning power of the securities purchased by the Retirement Trusts.

All retirement plan investments are made by the plan's invest-

(See RETIREMENT, Page 2)

ON WEAPON SYSTEMS MANAGEMENT

AL MORGAN — Vice-president Al Morgan, Contracts and Services, comments to the NEWS on weapon systems management contract competitions. "The successful bidder must have highest order of administrative ability and capability in all areas, in all departments," stated Mr. Morgan.

THE WILL—"Training, technical representation, manufacturing, engineering, quality control, accounting, backed up by a willing and resourceful management are needed. Associate contractors from all over the United States may do much if not most of the statement of project work . . ."

TOTAL AND FINAL—"Nevertheless, the prime contractor must accept total and final responsibility. A weapon systems management contract is a total effort. You must place great emphasis on specialties and administration. Burden rates will increase and justification must be realistic . . ."

W-S PROPOSAL—"Northrop Division is at this time preparing a weapon systems management proposal and all significant functions should objectively study and evaluate the part they might play in such a contract. We have W-S management experience on the Snark guided missile . . ."

NINE YEARS—"The Snark project has been a nine-year source of excellent working experience and has increased our capability manyfold. But we must be alert to the fact that today's weapons systems management proposal is a much more conclusive and over-all responsibility . . ."

NEWS BRIEFS

(Continued from Page 1)

ary for an industrial-type survey, it has been announced by P. W. Timberlake, Corporate vice-president, Organization . . . Northrop Vice-president and General Manager Dick Nolan advises that General Robey's objectives are (1) obtaining of information that will be used in the administration and control of government programs, and (2) obaining of optimum effectiveness in Defense Department management, government contractors management, manufacturing production methods, quality control, cost control, and resources and facilities utilization. Formal presentations to the team will be made at Northrop Field. The team will then visit all plants and all facilities.

T-38 BUY—Al Morgan, vice-president, Contracts and Services, advises that proposal is now being prepared for quotation to the Air Force on the T-38 buy for fiscal 1960 . . . Quotations will be submitted in mid-March for mid-April negotiations in time for contract finalization before June 30, the end of 1959 Air Force fiscal year . . .

HERE FROM PARIS—Geoffrey Parsons, jr., vice-president, Europe, for Northrop International, is winding up an intensive two-week visit of Northrop facilities in the U. S. Discussions at Corporate headquarters, Northrop Division, Radioplane, Nortronics and Washington offices have centered around several important overseas programs, including N-156F and the company's participation in the upcoming Paris Air Show. In addition to sessions with Gil Nettleton, vice-president and general manager of Northrop International, and other company officers and key people, Mr. Parsons' visit has enabled him to participate in important meetings of Northrop area and regional representatives headed by Roger R. Ramey, vice-president, District Offices.

Retirement Credits—

(Continued from Page 1)

ment board composed of Northrop Directors Edward W. Carter, chairman; Lloyd L. Austin; and Richard W. Miller. Mr. McDuffie and Mr. Collins also serve as ex-officio members.

The January 30 statement will also contain information on fixed benefits credited during the year.

As an added feature of this year's statement, the Company, on the basis of current individual earning rates and current value of units, will estimate for each Norcrafter his or her expected monthly retirement income at 65.

To review essentials of the retirement plan: The Company pays the entire cost. During the year, each Norcrafter receives a credit of $21 on the first $4200 earned as the initial variable portion of his retirement credits. On all income over $4200 an additional three-fourths of one per cent variable credits and also three-fourths of one per cent fixed credits are granted.

Norcrafters who terminate prior to normal retirement date may have certain vested rights in the plan. This is a 50 per cent vested interest at age 45 or over upon achieving 10 years of service. This vested interest increases —10 per cent each year of age and service — to 100 per cent when 15 years service and age 50 are reached.

Those who have questions about their retirement plan statement should call Ed Means, retirement administrator.

NEW TINTED LENS AT SAFETY STORE

A new type of tinted lens is now available in safety prescription glasses through the optical section of the safety store. This lens is for those whose prescription glasses must be tinted.

The office hours of Dr. William Blum, optometrist, are 9 a.m. to 5 p.m. on Mondays and Tuesdays, and 3 p.m. to 10 p.m. on Thursdays.

Among the optical services available are eye examinations (by appointment only), complete assortment of frames, and safety prescription glasses at industrial prices.

T-38 Team Symposium—

(Continued from Page 1)

rector, Small Business Administration, Los Angeles, was also an honored guest.

Other high officials from the Air Force, attending the conference from the Ogden Air Materiel Area, were Major General P. H. Robey, commander, and Colonel F. L. Tenney, director of Production and Procurement.

Attending with General Irvine were Colonel R. S. Nye, DCS Materiel, and Major L. L. Rainey, executive assistant.

Attending from Air Materiel Command, Dayton, was Lt. Colonel Boyd Herman, T-38 weapon system project officer.

From the Los Angeles Air Procurement District were Colonel Daniel A. Cooper, chief; George Byrnes, chief, Small Business Division and Contractors Relations, and D. O. Shaw, chief, Production Division.

From Northrop was Colonel H. T. Morris, Air Force plant representative and Air Force officers in industry training here were Lt. Colonel Charles P. Downer, Captains Philip E. Kelgard and Bruce S. Benefield.

The meeting convened at 9:30 a.m. with the morning devoted to talks and briefings on the T-38 and the N-156F. There was time out for coffee breaks. Freddy Wolfe, Division Cafeteria manager, served a fine luncheon.

The afternoon was taken up with plant tours highlighting T-38 Advanced Production.

Visiting suppliers were from Canada and all over the U.S. as far east as New England. Companies represented ranged all the way from industrial giants to small machine shop owners.

Symposium chairman Jack Hinchliffe, during his welcoming address to the assembly, pointed out that suppliers would provide 60 per cent of the T-38 direct cost and that teamwork on the part of all contract participants would certainly spell success.

With this project cost background, Vice-president and General Manager Dick Nolan told the audience that one of the most important elements in the success of the program would be good communications and continuous exchange of ideas between Northrop and the supplier-team, and between Northrop and the supplier-team and the public.

"We want the public to know the T-38 story," he stated. "We intend that these airplanes—the T-38 and N-156F—be built at a cost the customer, at home or overseas, can afford."

brain / drain

In the following Issue, the News *will print the first solution received by mail.*

Two friends have a two-gallon jug of wine and wish to share it equally. They also have two empty jars—one holding five quarts, the other three. None of the containers have any increment markings.

How were they able to divide the wine into two portions of four quarts each?

The first correct solution to last issue's brain/drain was submitted by P. E. Williams, organization 3232. He algebraically determined that the string would "stand" off the earth 18/π or approximately 5.73 inches. Runnerups were C. M. Callaway, 4300, and K. N. Babcock, 8910.

Tebo Appointed Chief and Base Administrator at MTF

Wilbur J. Tebo, jr., has been appointed chief and base administrator of the Missile Test Facility at Florida, it was announced by George Douglas, vice-president, Engineering.

W. J. TEBO

Mr. Tebo is responsible for all Northrop missile testing activity at Cape Canaveral. He reports to Milt Kuska, director, Flight Test Engineering.

The entire span of Mr. Tebo's association with Northrop has been in Florida. In 1954 he joined the Company as a research analyst in Guidance and Controls.

Within a period of two years he was advanced to supervisor of MTF Flight Control unit within Guidance and Controls. In June of 1957 Mr. Tebo was put in charge of all operations on the night shift. A year later he was appointed as general supervisor of Flight Test.

Collins—

(Continued from Page 1)

maintenance. We have inserted the dollar sign explicitly in the technical equation at the very inception of new developments."

Mr. Collins then elaborated on the role that each Division has played in this over-all balance of advanced technology at correlative low level of cost.

He concluded with several predictions that summed the above into a forecast of expanded sales volume and increased earnings.

"For the first five months of the fiscal year, sales were approximately 96 million, compared with 100 million for the corresponding period last year. After-tax earnings amounted to 2.6 million, equivalent to $1.62 per share on the approximately 1,587,500 shares outstanding as of December 31 last. These earnings compare with 2.1 million for the like interval a year ago, when per-share income was $1.34."

ADOPTED FAMILY PROGRAM AIDS 88

Thousands of Norcrafters joined in the annual Adopted Family program at Christmastime. For the fourth straight year, Northrop families who had met with temporary misfortunes were provided with the ingredients for a joyful Christmas by other warm-hearted Norcrafters.

Statistically, 88 families were "adopted". The members of these families included 293 children and 153 adults.

In addition to the boxes filled with food, clothing and toys, generous sums of cash were donated.

Northrop News

Vol. 17 No. 8

Northrop Field, Hawthorne, Calif.

A NORTHROP AIRCRAFT INC. PUBLICATION

Published every other Wednesday

PUBLIC RELATIONS NORTHROP DIVISION

CHARLES BARR, Director

CHARLES BRADFORD, Editor

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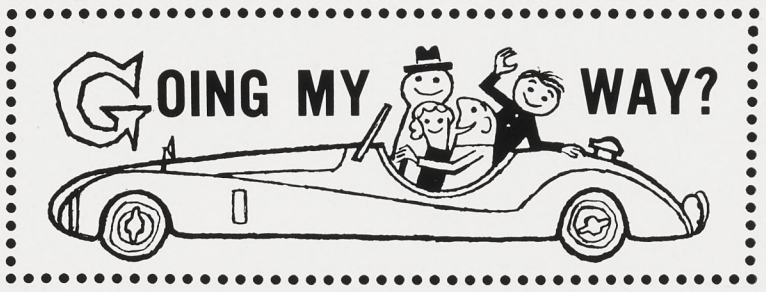


RIDES WANTED

7:00 a.m. — 3:45 p.m.

(Zone 2)
AVALON & 51st ST., Los Angeles. (Desire car pool.) SOLOMON TAYLOR (5508-10309, ext. 2327). AD 4-3249. 2-2

(Zone 4)
VERMONT & 120th ST., Los Angeles. RAYMOND MODIANO (5240-18232, ext. 2181). PL 6-6177. 2-4

(Zone 5)
DEL AMO & WOODRUFF, Lakewood. (Desire car pool.) P. H. MAURER (5421-15210, ext. 1856). TO 6-3349. 2-5

(Zone 9)
HAWTHORNE BLVD. & REDONDO BEACH BLVD., Lawndale. M. F. JONES (5338-16613, ext. 2444). FR 4-2117. 2-9

(Zone 12)
CENTURY & SEPULVEDA, Los Angeles. A. C. MALM (5501-17359, ext. 2200). OR 1-8356. 2-12

AIRPORT & RAMSGATE, Los Angeles. MINNIE HALL (5352-50280, ext. 1508). OR 2-4489. 2-12

7:30 a.m. — 4:15 p.m.

(Zone 3)
SAN BERNARDINO FRWY & SAN GABRIEL BLVD., San Gabriel. R. R. BECKER (5110-10951, ext. 2451). AT 0-8042.

(Zone 4)
FLORENCE & PARAMOUNT, Downey. ELSIE BRYANT (9550-11901, ext. 1352). TO 2-5994. 3-4

(Zone 8)
SARTORI & TORRANCE BLVD., Torrance. S. A. BROOS (2720-26814, ext. 2694). FA 8-4287. 3-8

(Zone 10)
HERMOSA AVE. & 4th ST., Hermosa Beach. JEAN WILLIAMS (5400-50164, ext. 1331). FR 6-2503. 3-10

(Zone 12)
HAWTHORNE BLVD. & IMPERIAL, Lennox. SHERRY HENDERSON (8910-10994, ext. 1431). OS 5-6803. 3-12

8:00 a.m. — 4:45 p.m.

(Zone 1)
CRENSHAW & 67th ST., Inglewood. HELEN LONEY (8850-56433, ext. 403). OR 7-3472. 5-1

SANTA MONICA BLVD. & WESTERN, Hollywood. (Consider car pool; via Wilton, Wilshire, Crenshaw.) HAROLD GREER (3241-53657, ext. 2775). HO 4-6094. 5-1

(Zone 4)
FLORENCE & PARAMOUNT, Downey. ELSIE BRYANT (9550-11901, ext. 1352). TO 2-5994. 5-4

(Zone 5)
LAMPSON & STANTON, Garden Grove. ROSE JOHNSTON (8851-25808, ext. 2043). NE 5-9829. 5-5

(Zone 6)
HARVARD & 149th ST., Gardena. (Desire car pool). LOUISE SMITH (8852-10251, ext. 403). DA 4-8647. 5-6

(Zone 9)
PROSPECT & TORRANCE BLVD., Redondo Beach. HELEN WALKER (4530-10988, ext. 617). FR 6-4533. 5-9

(Zone 10)
INGLEWOOD AVE. & 134th ST., Hawthorne. (Consider car pool; have pass.) P. F. CHRISTOPHER (3533-31255, ext. 2261). OS 5-2565. 5-10

INGLEWOOD & 142nd ST., Hawthorne. MILDRED DUQUE (9430-11008, ext. 2088). OS 5-9205. 5-10

(Zone 11)
IMPERIAL & VISTA DEL MAR, Playa del Rey. VIRGINIA POOR (9542-10171, ext. 781). EX 8-5096. 5-11

(Zone 12)
SUNSET & VIA DE LA PAZ, Pacific Palisades. (Desire car pool.) DOUG WEEKS (2811-29901, ext. 539). GL 4-4866. 5-12

MONUMENT & SUNSET, Pacific Palisades. (Consider car pool; pass available.) H. A. COTTINGHAM (3247-48475, ext. 619). GL 4-1231. 5-12

(Zone 13)
CENTINELA & LA TIJERA, Los Angeles. ANNA WOOD (8830-52249, ext. 747). OR 3-0884. 5-13

3:45 p.m. — 12:15 a.m.

(Zone 4)
FLORENCE & WILCOX, Bell. W. R. SMITH (5501-17504, ext. 2200). LU 2-5530. 6-4

(Zone 9)
PACIFIC COAST HWY & TORRANCE, Redondo Beach. C. R. BARRETT (5449-16996, ext. 1366). FR 6-6787. 6-9

4:45 p.m. — 1:15 a.m.

(Zone 4)
IMPERIAL & VERMONT, Los Angeles. EARL UTZMAN (8852-10848, ext. 403). 8-4

RIDES OFFERED

7:00 a.m. — 3:45 p.m.

(Zone 2)
AVALON & 51st ST., Los Angeles. (Desire car pool.) SOLOMON TAYLOR (5508-10309, ext. 2327). AD 4-3249. 12-2

(Zone 4)
CARMENITA & TELEGRAPH, Whittier. C. E. SIMPSON (7722-26763, ext. 2225). OX 8-4576. 12-4

(Zone 5)
DEL AMO & WOODRUFF, Lakewood. (Desire car pool.) P. H. MAURER (5421-15210, ext. 1856). TO 6-3349. 12-5

(Zone 9)
HAWTHORNE BLVD. & PACIFIC COAST HWY, Walteria. J. E. MINTER (5231-31737, ext. 243). DA 6-4195. 12-9

8:00 a.m. — 4:45 p.m.

(Zone 1)
SANTA MONICA BLVD. & WESTERN, Hollywood. (Consider car pool; via Wilton, Wilshire, Crenshaw.) HAROLD GREER (3241-53657, ext. 2775). HO 4-6094. 15-1

(Zone 5)
BROOKHURST & LINCOLN, Anaheim. IVAN DARE (3373-26125, ext. 2751).

(Zone 6)
HARVARD & 149th ST., Gardena. (Desire car pool). LOUISE SMITH (8852-10251, ext. 403). DA 4-8647. 15-6

(Zone 10)
INGLEWOOD AVE. & 134th ST., Hawthorne. (Consider car pool; have pass.) P. F. CHRISTOPHER (3533-31255, ext. 2261). OS 5-2565. 15-10

(Zone 12)
SUNSET & VIA DE LA PAZ, Pacific Palisades. (Desire car pool.) DOUG WEEKS (2811-29901, ext. 539). GL 4-4866. 15-12

MONUMENT & SUNSET, Pacific Palisades. (Consider car pool; pass available.) H. A. COTTINGHAM (3247-48475, ext. 619). GL 4-1231. 15-12

3:45 p.m. — 12:15 a.m.

(Zone 10)
PIER & PROSPECT, Redondo Beach. MILLIE DANIELS (5516-19265, ext. 2646). FR 2-9348. 16-10

CHESS TOURNEY
—intrafacility—
• • •
entry forms at all personnel activities offices
deadline—Feb. 5

Firefighting Methods Topic Of NRC Boat Club Meeting

NRC Boat Club members will hear about the chemistry of fire and techniques for its suppression and prevention Wednesday, February 4, discussed by Captain Jim Bartlett of the Northrop Division Fire Department.

Although his talk and demonstration is scheduled for a regular monthly meeting of the NRC Boat Club, landlubbers are welcome. Fire's causes and effects are the same at sea and ashore, although destructive flames are the especial bane of the boater.

Captain Bartlett will demonstrate various types of combustion and appropriate extinguishers, employing controlled tabletop fires.

The meeting is slated for 7:30 p.m. February 4 at the NRC Clubhouse, 175 North Hawthorne Boulevard, Hawthorne.

L A Philharmonic Concert Ducats Available at Personnel Activities

This Saturday evening the Los Angeles Philharmonic Orchestra presents its Promenade Concert at the Shrine Auditorium. Curtain is at 8:30 p.m.

With Johnny Green, MGM musical director, conducting, the program features Leonard Bernstein's "On the Waterfront" and "Strauss Fantasy," orchestrated by Mr. Green. The soloist is the renowned Dorothy Kirsten.

As a special service to Norcrafters, tickets for this hearty entree of musical fare may be obtained at all Personnel Activities offices. Prices are $2, $1.50 and $1. Only a limited supply is available.

Golfers Drive on San Clemente Fairways

Twenty-five foursomes will take a whack at the San Clemente fairways in the upcoming NRC tournament Sunday, February 15. First quartet will tee off at 8:30 a.m.

Early registration is a must because of limited reservations. Entry fees are $3 per person, including prize fund. Merchandise prizes will be awarded.

COLOR SLIDE KNACK SHOWN CAMERA CLUB

NRC Camera Club members and guests will have an opportunity to learn how to improve their techniques of processing colored slides Wednesday, February 4, at 7:30 p.m.

At the meeting to be held that evening at the NRC Clubhouse Annex, Irma Louise Rudd, well-known technical lecturer, will demonstrate methods of improving quality of color transparancies. The lecture will be highlighted by a series of before-and-after slides showing the improvement that any camera fan can make in his own home without expensive equipment.

Meetings of the NRC Camera Club are regularly scheduled for the first, third and last Wednesdays of the month.

BLOODMOBILE
→ February 18 ←

NRC Good Time Table February

For enrollment or information on activities listed below, call or contact Personnel Activities, Plant One, extension 2784. All clubs meet at the NRC Clubhouse unless otherwise noted.

ARCHERY (days), Wes Williams
Meet Wednesdays, 7:30 p.m.—movies 1st Wednesdays. Archery classes now in session.

ARCHERY (nights), Paul Randolph
Meet Wednesdays, 12:15 p.m.

ART CLUB (days), Forrest Ayrest
Meet in Annex Thursdays, 7 p.m. Models furnished by NRC. Sculpture classes Wednesdays, 7:30 p.m.

ASTRONOMY (days), Jim Stowe
Meet 2nd & 4th Mondays, 7:30 p.m.

BASKETBALL, George Forbes, jr.
League play at Leuzinger Hi Mondays & Thursdays, 6:30 p.m.

BIBLE STUDY, Roy Stahl
Plant I—Daily, 11:30-12:15, Tool Design Bldg; 11-11:45, 5566 Conf. Room. Plant II—Mondays & Thursdays, 12-12:45, Conf. Room 2. Eng. Center—Daily, 12-12:45, Reliability Conf. Room.

BOAT CLUB, Ken Payne
Meet 1st Wednesdays, 7:30 p.m. Water Ski Club (days) meets 3rd Thursdays, 7:30 p.m.

BOWLING (days), Dave Carney

BOWLING (nights), Charlie George
Winter leagues now rolling.

BOY SCOUTS
Sea Scouts, Intermediates, Cub Scouts. All Norcrafter boys welcome.

CAMERA CLUB (days), Fred Armstrong
Meet 1st, 3rd & last Wednesdays, 7:30 p.m.

CAMERA CLUB (nights), John Newman
Meet 1st and 3rd Saturdays.

CAMPING CLUB, Fred Brant
Meet 1st Mondays.

CHESS CLUB, Bill Henderson
Facility-wide tournament entry deadline February 5.

GEM & MINERAL CLUB (days), Ray Cole
Meet 2nd Wednesdays, 8 p.m. Mineralogy classes Thursdays, 7-9 p.m.

GOLF (days), Ted Deguisne

GOLF (nights), Russ Munsen
San Clemente February 15. Hesperia March 15. Ojai Valley April 26.

GUN CLUB (days), Robert Raines
Meet 3rd Wednesdays, 7:30 p.m.

MIXED CHORUS, Burt Bracher
Meet Tuesdays, 7:30 p.m.

MODEL RAILROAD, Jack Wilson
Meet in Annex Wednesdays, 7-10 p.m. Visitors welcome. Need electricians, carpenters & scenic artists to help with new layout.

ORGAN CLUB, Gail Skinner

PHILATELIC CLUB, Eugene Richardson
Meet 2nd & 4th Mondays, 7 p.m.

RADIO CLUB (days), Andy Dolak
Meet last Thursdays, 7:30 p.m. Radio code class meets Wednesdays, 7:30 p.m. NRC's station is W6VPZ.

RADIO CLUB (nights), Merwin McGrew
Meet last Thursdays, 1:30 p.m.

SKEET CLUB, Dan Kawashima
Meet alternate Saturdays, February 7 & 21, at Rancho Los Angeles Range, Main & Broadway, 10 a.m.

SKI CLUB, Chuck Morse
Meet 2nd & 4th Wednesdays, 7:30 p.m.

SKINDIVING (days), Ralph Gonzales
Meet 3rd Wednesdays, 7:30 p.m.

SKINDIVING (nights), Lillian Kemble
Meet 3rd Wednesdays, 1 p.m.

SPORTS CAR CLUB, Jack Kirkpatrick
Meet 2nd Thursdays, 7:30 p.m.

SQUARE DANCING, George Sanborn
Beginners' class at Bret Harte Jr. Hi Fridays, 8-11 p.m.

SURF FISHING, John Pawlicki
Meet 1st Tuesdays, 7:30 p.m.

TABLE TENNIS, Robert Burke

TENNIS, Ed Hummel
Meet 1st Mondays, 7:30 p.m. Practice & instruction at El Camino Jr. College Saturdays, 10 a.m.

TOASTMASTERS 212 (days), John Walker
Meet at Western Avenue Country Club Thursdays, 6:30 p.m.

TOASTMASTERS 1398 (nights), Jay Rayner
Meet at Western Avenue Country Club Thursdays, 12:15 p.m.

TOASTMASTERS 2583 (days), Howard Cornelius
Meet at Kim's Restaurant Mondays, 6:15 p.m.

TRAVEL CLUB, Howard Cornelius
Meet 4th Mondays, 7:30 p.m.

FOR THE LADIES

BOWLING (days), Corinne Davis

BOWLING (nights), Mary Mimnaugh
Winter leagues now rolling.

GIRL SCOUTS, Dallas Vasquez
Mariners, Intermediates, Brownies. All Norcrafter girls welcome.

TOASTMISTRESS, Marge Gates
Meet in NRC Clubhouse Board Room 1st & 3rd Thursdays, 7 p.m.

BBSF Classified Ads

BBSF classified ad service is provided free of charge to all Norcrafters.

Items advertised in "For Sale" and "For Sale or Trade" categories are limited to a maximum of $50. Price must be stated.

Box numbers will be provided for Norcrafters who do not have home phones or who do not wish calls. Replies to box numbers are to be in writing and sent to the News Office.

Ads for agencies, commercial enterprises and private businesses are not accepted.

Deadline is noon Monday, nine days before publication.

FOR SALE

HOUSEHOLD FURNISHINGS, rug, 9'x12' wool, floral, $10; sofa, green & metallic gold, w/builtin planter & fluorescent lites, $25. DA 4-6053. A

BED, Hollywood-type, mattress, box spring, frame, 2 yr old, $20. DA 6-0895. A

PUP, cocker, 12 wk old, AKC, $30. OS 5-1842. A

WASHER, Bendix automatic, $20. VE 9-7378. A

FURNITURE, table, mahogany, piecrust-type, round, $7.50; chair, frieze, $8. OR 4-2623. A

KITCHEN SET, table, formica top, 4 chairs, $35. FR 5-8536. A

TV SET, Trutone 14" portable, $50. TE 4-4770. A

ADDING MACHINE, Burroughs, 7-column, $35. RI 8-4858 after 9 p.m. A

AMPLIFIER, RCA MI-4288R, 40-watt, $35. WE 5-6824. A

FIRE BRICKS, used, $8 per 100. PL 4-8142. A

CAR PARTS, 1940-48 Ford; transmissions, 2, $10 ea; overdrive unit, $15. DA 9-3895. A

RUG, 12'x15' oval braided-type, green, 8 mo old, $50. DA 3-6954. A

CAMERA, Photrix 35-mm, Cassaron f:2.8, 1-300 MXV shutter, coupled RF, LVS, $40. GL 4-7770. A

SWEEP GENERATOR, Eico 368 TV-FM, 4.5-mc, w/xtal & cables, $45. DA 9-3131. A

FURNITURE, davenport, chair, green & gray, $30. OS 5-9054. A

CHEVROLET, 1947 4-dr, $50. FR 9-3128.

BABY EQUIPMENT, crib, 6-yr size, w/ mattress; playpen; bed guard, Terry Gate; car seat; nursery seat; carriage; car bed-seat; bassinet; bathinet; scale; stroller, Foldarola; $50. TE 2-9629. A

TYPEWRITER, Underwood portable, w/ case, $35. GE 4-2717. A

MOWER, Craftsman 18"-cut, $15. FR 5-5238. A

TRAILER, 4'x6' 2-wheel utility-type, $25. FR 5-4314. A

VACUUM CLEANER, Lewyt, approx. 8 yr old, cost $100, $15. AX 3-4449. A

CORNER TABLE, dk mahogany, $15. FR 6-3178. A

CLARINET, beginner's metal, w/case, $35. OS 6-5425. A

FOR SALE

VACUUM CLEANER, Electrolux, $29. OS 6-6956. A

LOGGER BOOTS, man's size 9, Paul Bunyan 12" patented-type, $25. DU 4-4017.

PUP, German shepherd, 8-wk-old male, $15. DA 3-4628. A

WASHER, Hotpoint automatic, $50. PL 8-7335. A

COUCH, white leather, 2-mo-old, $50. OR 4-7644. A

VACUUM CLEANER, Revelation, w/6 attachments, $37.50. DA 3-3282. A

SHAVER, Remington 60 Deluxe electric, $10. HO 4-7747. A

CRIBS, 2, w/mattresses; maple, $14; natural, $18. PL 6-5939. A

SPEAKER, Jim Lansing D130 extended-range 15" hi-fi, 9 mo old, $50. OR 4-6347. A

CRIB, 6-yr size, $10. NE 8-5691. A

TV SET, console, $40. OS 6-5921. A

ROASTER, Nesco electric, $20. OS 6-3719. A

STAINLESS STEELWARE, 24-pc set, $2. GR 7-1539. A

SPEEDOMETER, Stewart Warner boat-type, 0-40 mph, w/25' of tubing & pick-up unit, cost $15, $8. FR 4-0305. A

TIRE CHAINS, 6.50x17, $6. OR 8-5307.

WANTED TO BUY

SLIDE RULE, 5". PL 4-4384.

FOR TRADE

POWER MOWER, Dunlap reel-type, chain drive, trade for table saw, Skilsaw or shotgun reloader. NE 5-3921. C

RIFLE, Savage 300, Jap conversion, custom, trade for Winchester 12 16-gage or Ithaca 37 16-gage shotgun. FA 8-5365.

WRIST WATCH, Bulova man's, trade for typewriter. OS 6-5253. C

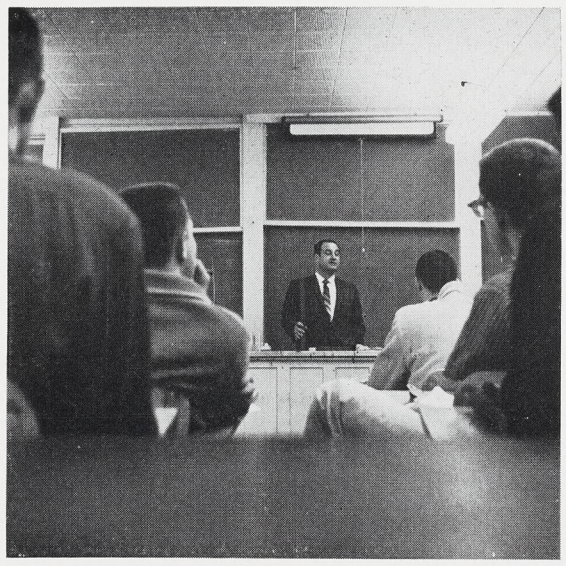
TRAIN EQUIPMENT, HO-gage, cost over $400, trade for 4"x5" Speed Graphic camera. Box 802. C

TENOR SAX, Selmer, w/case, trade for baritone sax w/case. Box 801. C

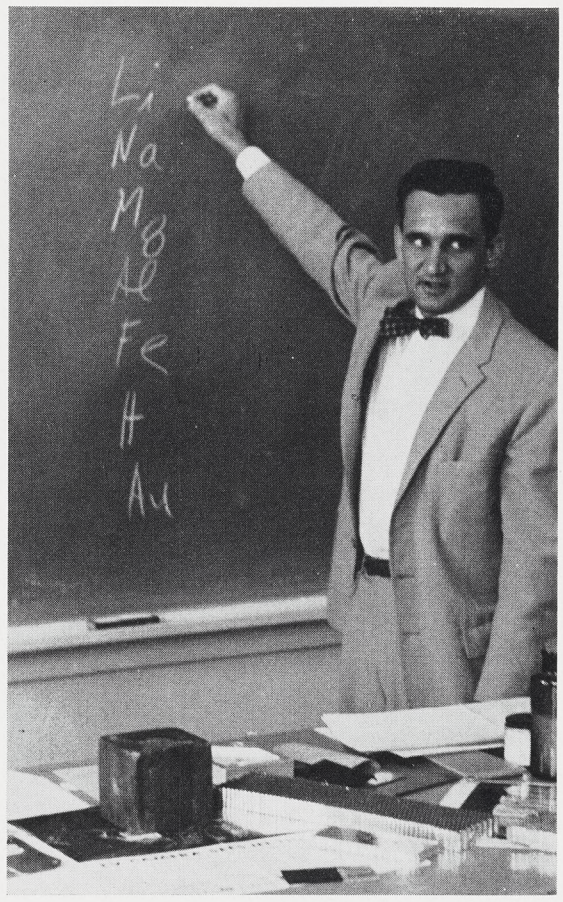
FOR SALE OR TRADE

CRIBS, 2, w/mattresses, $10 or trade. OS 5-8467. M

Norcrafters Breathe Life into Scientific Textbook Theory



BACK TO CLASSROOM—Most of the Norcrafters chosen to lecture—like Al Binsacca, Materials and Process Engineering, above—had spoken to high schoolers before, balanced approach between oversimplification and "egghead" phrasing.

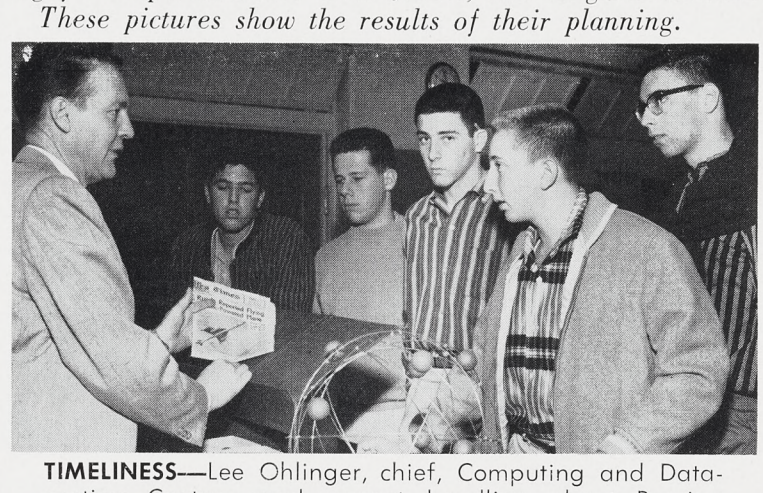


PITHY TOPICS—Subject matter was coordinated beforehand with science teachers. At right, Howard Childers, Materials Research Laboratory, used chemical activity series, just studied by students, to introduce concept of metal electroplating.

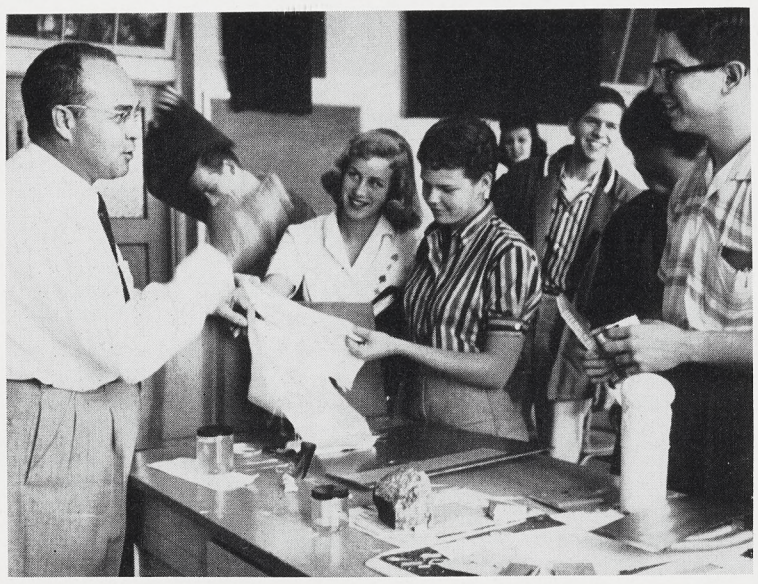
To the Space Age scientists—Los Angeles High Schoolers, classes of '59 and '60—this was a challenging experience. Men who actually used the carefully-phrased theorems in high school chemistry and physics texts spoke to them in the universal language of things scientific . . .

It all started three years ago when Northrop sent four lecturers to Alexander Hamilton High School. At the beginning of this school year, Paul Wierk, chief, Engineering Administration, and chairman of our Educational Advisory Committee, formulated plans for the semester's lectures with David Randolph, industry-education coordinator, acting for Superintendent Ellis Jarvis, Los Angeles schools.

These pictures show the results of their planning.



TIMELINESS—Lee Ohlinger, chief, Computing and Datamation Center, used current headline about Russian studies of nuclear airplane to punctuate his forecasts.

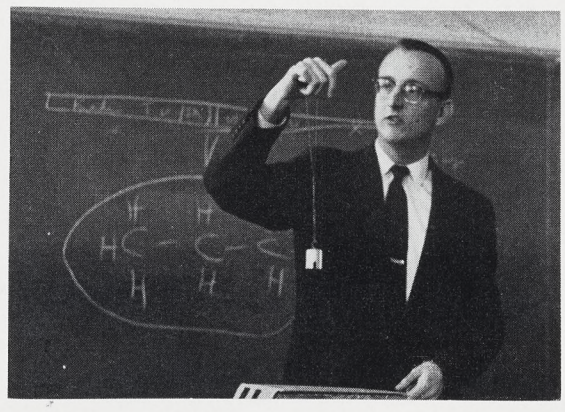


RAPPORT—In tune with the value of sensory experiences, "concrete" examples keynoted plastics lecture by Blair Manire, Non-metallics. Boy in background had used radome core as hat. Clowning? Yes . . . but he and classmates will remember. Ice-cream-soda-type object in foreground is polyurethane foam, which had been cured in the classroom during Manire's lecture-demonstration.

Props Solidify Scientific Concepts

TEENERS RESPOND—Interest stimulated by crisp talks and meaningful samples gripped inquisitive young minds long past assigned lecture periods. Bill Steffen, Nonmetallics, right, was answering Abbie Ziffren's query on helicopter blade segment.

RESONATING—To graphically portray resonant frequency of chemical bonds, Eric Peterson, Materials Research Laboratory, imaginatively used rubber band, weight.



HONEYCOMB—Hobes, segments of honeycomb-before-expansion, were passed around for students to examine. Their enthusiastic response to this example of science-in-practice is evident by class animation.

EYES FORWARD—Underlying the bubbling verve that greeted our lecturers lay the intentness characterizing these scientists-on-the-way, as typified by Jane Hallock, pictured below.

Northrop News

NORTHROP DIVISION

Issued Every Two Weeks at Northrop Field, Hawthorne, Calif. Wednesday, January 28, 1959

SUPPLIERS TEAM UP FOR TALON PROGRAM

Northrop Division was host last week to an enthusiastic high-interest meeting of companies who will share in building the T-38 and N-156F airplanes.

In a new kind of attack on the spiralling costs of defense, executives of 161 key suppliers met here for the day-long symposium on the two projects.

Many Northrop officials were on hand to greet the visitors. Heading Company hosts were President Whitley C. Collins; Northrop Vice-president and General Manager Dick Nolan; Senior Vice-presidents Robert R. Miller and T. V. Jones; P. W. Timberlake, Corporate vice-president, Organization; Irving Roth, Corporate vice-president, Finance; Division officers—Vice-presidents John Alison, Customer Relations, George Douglas, Engineering, Al Morgan, Contracts and Services, Bob Lloyd, Manufacturing; Dan H. Hill, treasurer; George Gore, general counsel; and symposium chairman, Jack Hinchliffe, director, Materiel.

Lt. General Clarence S. Irvine, Air Force deputy chief of staff, Materiel, who flew from the Pentagon especially to attend, stated, "Such meetings as this can only result in progress. This is communications to the people who will do the work. This is the democratic way of doing things. It is smart business. It is the indication of an attitude that can only produce a fine product."

Attending from financial circles was James P. Mitchell, vice-president, Aviation Division, Chase Manhattan Bank, New York.

Donald McLarnan, regional director, Small Business Administration, Los Angeles, was an honored guest.

Other high officials from the Air Force attending the conference from the Ogden Air Materiel Area were Major General P. H. Robey, commander, and Colonel F. L. Tenney, director of Production and Procurement.

Attending with General Irvine were Lt. Colonel R. S. Nye, staff, DCS/Materiel, and Major L. L. Rainey, executive assistant.

From the Los Angeles Air Procurement District were Colonel Daniel A. Cooper, chief; George Byrnes, chief, Small Business Division and Contractor Relations, and D. O. Shaw, chief, Production Division.

From Northrop was Colonel H. T. Morris, Air Force plant representative, and Air Force officers in industry training here were Lt. Colonel Charles P. Downer, Captains Philip E. Kelgard and Bruce S. Benefield.

The meeting convened at 9:30 a.m. with the morning devoted to talks and briefings on the T-38 and the N-156F. There was time

(See SUPPLIERS, Page 2)

TEAMWORK

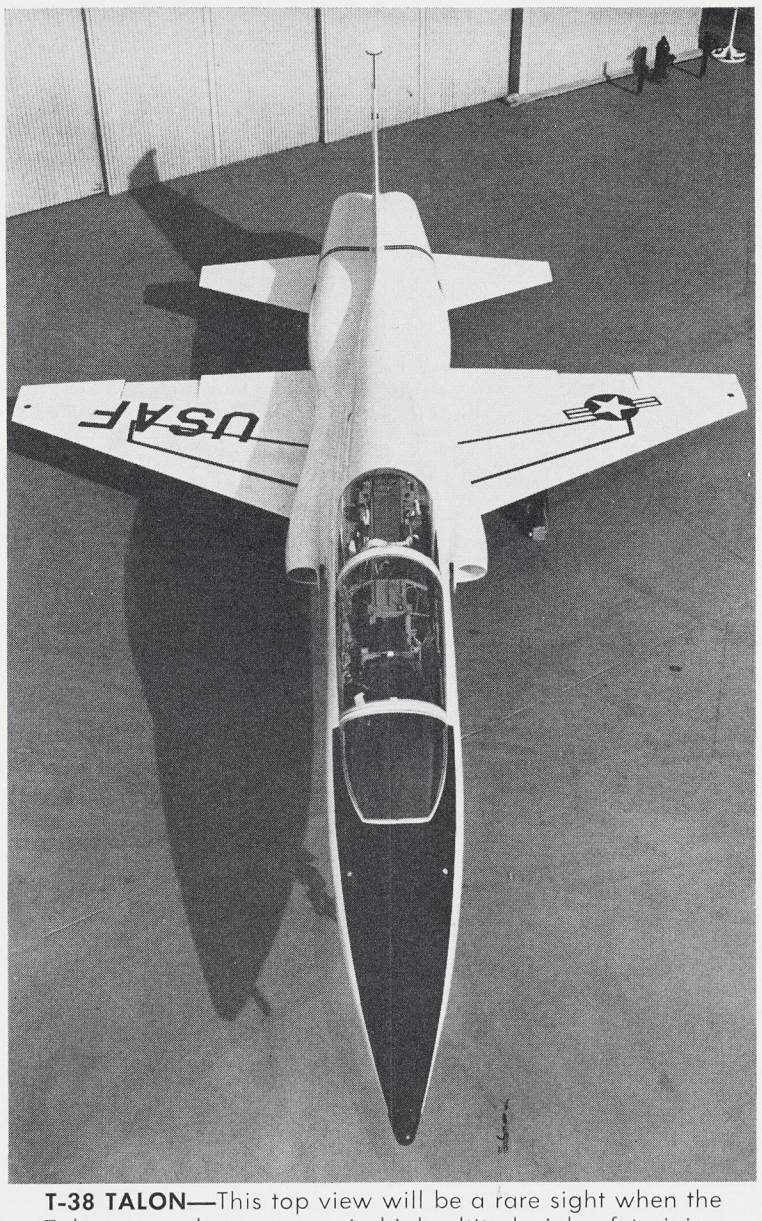
A sound and healthy industrial base is of prime importance to the success of any large weapon system project.

Here are three statements by Lt. General Irvine, quoted from *Aeronautical Procurement*, August, 1958.

1. Since procurement actions are spread around to many highly qualified industries, the end product should represent the best thinking of a large number of our scientists and engineers.

2. Putting the work in many hands, we are able to get the best performing systems sooner.

3. By extending the competition throughout the whole subcontract structure, we are able to get the most defense per dollar.



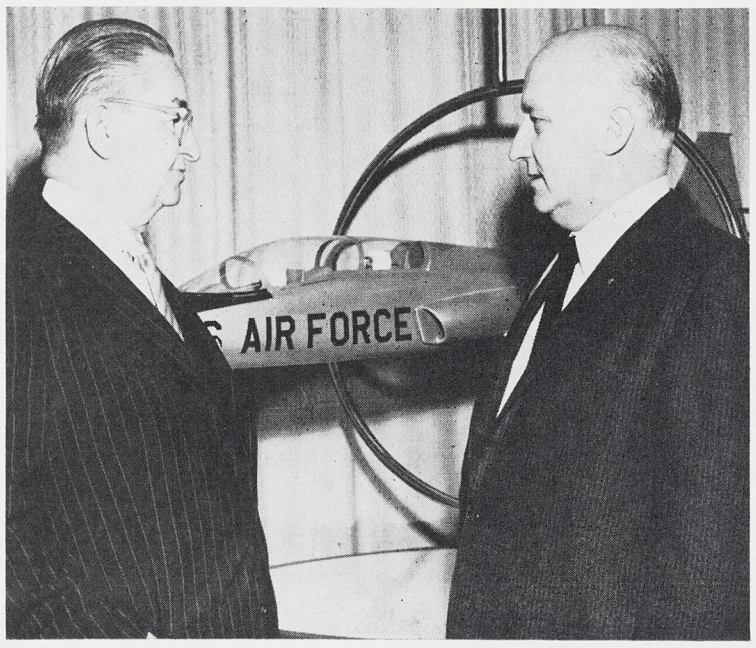
T-38 TALON—This top view will be a rare sight when the Talon starts her supersonic high-altitude job of training Air Force space and Century Series pilots. Shown are the crisp, clean lines of the advanced design concept used to achieve optimum performance, low-cost production.

EARLY ARRIVALS—Whitley C. Collins, Northrop Corporation president, right, greets Harry E. Johnson, vice-president, Ronson Hydraulic Units Corporation, Pasadena, who was one of the first arrivals. Inside, Northrop hosts, headed by Vice-president and General Manager Dick Nolan made the visitors feel at home, exchanged aircraft topics of the day. Symposium was first for aircraft industry.

FINAL ASSEMBLY—Visitors, touring T-38 final assembly lines, pause to discuss features of the Air Force's newest. Left, R. T. Cornelius, president, Cornelius Company, Minneapolis, Minnesota; C. G. Keach, chief Northrop Purchasing agent; E. R. Vogt, general manager, Crocket Manufacturing Company, Van Nuys, California; J. W. Hinchliffe, director, Northrop Division Materiel department.

MANUFACTURING — Tom McCracken, Northrop T-38 project coordinator, confers with F. P. Halas and General Manager Robert A. Aspinwall, Hamilton Standard. Suppliers on tour are shown getting first-hand view of AF's T-38 Talon.

FROM WRIGHT FIELD—Lt. Colonel Boyd Herman, T-38 Weapon Systems Project officer, and Northrop Vice-president and General Manager Dick Nolan talk progress on the new supersonic trainer. Symposium brought top people from United States and Canadian industry.



SMALL BUSINESS—Important visitor, Donald McLarnan, regional director, Small Business Administration, Los Angeles, discusses small business share in the T-38 program. Suppliers are scheduled to provide 60 per cent of Talon's direct cost when project gets into high gear.

Symposium Theme— Security with Solvency

AT LUNCH—More than 160 companies sent top-level executives and representatives to the T-38 suppliers symposium. Here they take time out for lunch in Northrop's new Products Display Building. In foreground are Max Pellerin, AF Northrop Division contracting officer; and P. W. Timberlake, Northrop Corporate vice-president, Organization. At right, Dan H. Hill, Division treasurer.

FROM NEW YORK AND WASHINGTON—General Manager Dick Nolan, President Collins, Lt. General Clarence S. Irvine, deputy chief of Staff, Materiel, and James P. Mitchell, vice-president, Aviation Division, Chase Manhattan Bank, New York, find T-38 outlook good. Stated General Irvine, "Such meetings as this can lead only to progress and a finer product." General Irvine was featured speaker.

HIGH PERFORMANCE MARKS T-38 TALON

Close cooperation between the U. S. Air Force and Northrop Corporation resulted in development of the Talon T-38 supersonic basic trainer. It is a high-performance, 850-mile-per-hour supersonic aircraft in the 10,000-pound weight range.

Developed and produced at Hawthorne, Calif., by Northrop Division, a division of Northrop Corporation, the Talon won a $16,926,000 U. S. Air Force production contract even before its first flight.

Selection of the extremely lightweight General Electric J-85 engines gives the USAF-Northrop T-38 a superior power-to-weight ratio which results in performance comparable to that of present-day combat aircraft of twice the weight.

The T-38 is a two-place trainer, constructed of materials which combine the qualities of strength, durability, and light weight. The excellent weight-to-strength ratio is attained by use of light but high-strength castings, thin wall stainless steel, titanium, magnesium, and modern honeycomb construction.

This unique aircraft employs a low, thin wing, an all-movable horizontal stabilizer, and fuselage lines characterized by distinct reverse curvature in the area of the wing root in conformance with the "area rule" concept. A full-power control system provides excellent response at all flight speeds and altitudes. Two speed brakes are located on the lower fuselage under the wing.

WEIGHTS:

Take-off weight (full fuel load)	Approximately	10,960 lbs.
Design weight (50% fuel out)	Approximately	9,000 lbs.
Landing weight (including 30-min. loiter reserve)	Approximately	8,000 lbs.

POWERPLANT:

Two General Electric J-85-GE-5 afterburning engines.

DIMENSIONS:

Wing		
Area	170	sq. ft.
Span	25 ft.	3 in.
Incidence (root)	0	
(tip)	0	
Dihedral	0	
Sweepback (25% chord)	24	
Length	43 ft.	1 in.
Height	11 ft.	11 in.
Tread	10 ft.	9 in.

Supplier Team Meeting

(Continued from Page 1)

out for coffee breaks. Freddy Wolfe, Division Cafeteria manager, and his efficient staff served a fine prime-rib luncheon.

The afternoon was taken up with plant tours highlighting T-38 Advanced Production.

Visiting suppliers were from all over the United States and as far east as New England.

Companies represented ranged all the way from industrial giants, such as General Electric, to small machine shop owners. Canadian suppliers also attended.

Symposium Chairman Hinchliffe, during his welcoming address to the assembly, pointed out that suppliers would provide 60 per cent of the T-38's direct cost, and that teamwork on the part of all contract participants would certainly spell success.

Northrop board member and Senior Vice-president T. V. Jones covered the concept of the Northrop family of lightweight weapon systems. He outlined the J-85 engine breakthrough that made the T-38 and the N-156F possible.

Far-reaching implications of this were better understood when Mr. Jones pointed out that flyaway cost of the 1000th T-38 would be from 60 to 73 per cent less than airplanes without the lightweight breakthrough. Maintenance hour per flight hour would be over 100 per cent less. Also, Air Force procurement-wise, the same budget dollar would buy 50 per cent more T-38 airplanes than conventional airplanes.

With this cost saving background, Vice-president and General Manager Dick Nolan told the audience that one of the most important elements in the success of the program would be good communications and continuous exchange of ideas between Northrop and the supplier-team, and between Northrop and the supplier-team and the public.

"We want the public to know the T-38 story," he stated. "We intend that these airplanes—the T-38 and N-156F—be built at a cost the customer, at home or overseas, can afford."

As graphic example of cost reduction and controls, Vice-presidents George Douglas and Bob Lloyd covered in detail the Target Cost System and the PACE programs.

At luncheon, Northrop President Whitley C. Collins introduced General Irvine.

Stated General Irvine, "I want to congratulate Northrop and the T-38 suppliers for holding this symposium. Cost control, the underlying theme of this meeting, is a major factor in this nation's efforts to build superior defense."

Talon Will Train AF's Space Men

When the first prototype Talon T-38 rolled off Northrop production lines last August, the U.S. Air Force came an important step closer to bridging the existing supersonic gap between primary trainers and Century Series fighter aircraft.

"We believe the T-38 will satisfy this new training requirement," the Air Force's Air Training Command declared recently. "The capabilities of this aircraft will permit training in all 1960 decade and a 'gap trainer' will not be required to bring the student up to the level of proficiency demanded by the combat vehicles of this era."

Present basic flying trainers are unable to prepare the student pilot adequately for flight in the present and future high-performance combat aircraft, ATC officials declare.

"Supersonic high altitude flight performance of the unconventionally designed fighters and bombers, now becoming our first-line aircraft, poses a new problem in flying training," Air Training Command says.

Need for the development of a practical and economical transition aircraft, capable of supersonic fighter performance, came on the heels of the Air Force's entry into the advanced jet age following the Korean conflict, ATC pointed out. Chemically-fueled bombers, a new generation of fighters, and boost-glide vehicles are expected to go into service within the life span of the Talon T-38.

SYMPOSIUM ISSUE

In answer to many requests, the Northrop News publishes this symposium report issue.

Stories and photos tell the high interest of nation's important suppliers in Northrop's new A.F. T-38 Talon.

Northrop News

Vol. 17 No. 8A

Northrop Field, Hawthorne, Calif.

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CHARLES BRADFORD, Editor

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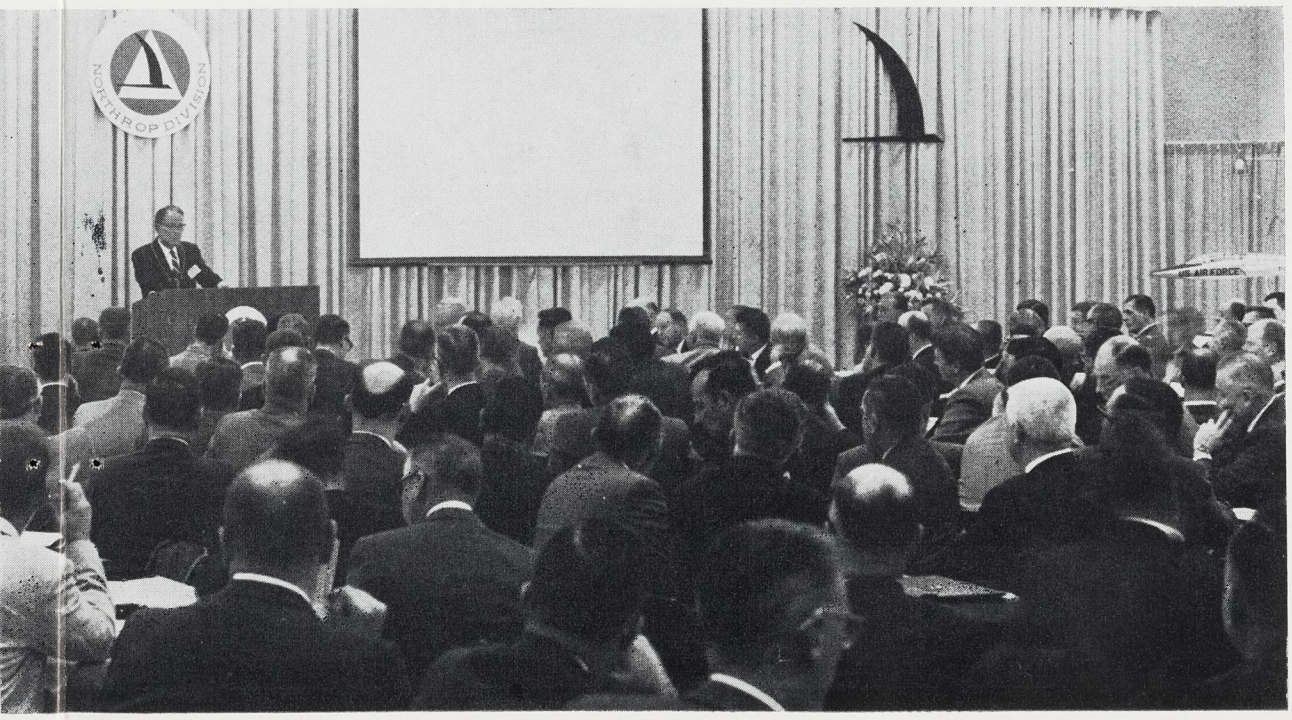
From East, West, Canada, T-38 Team Converges

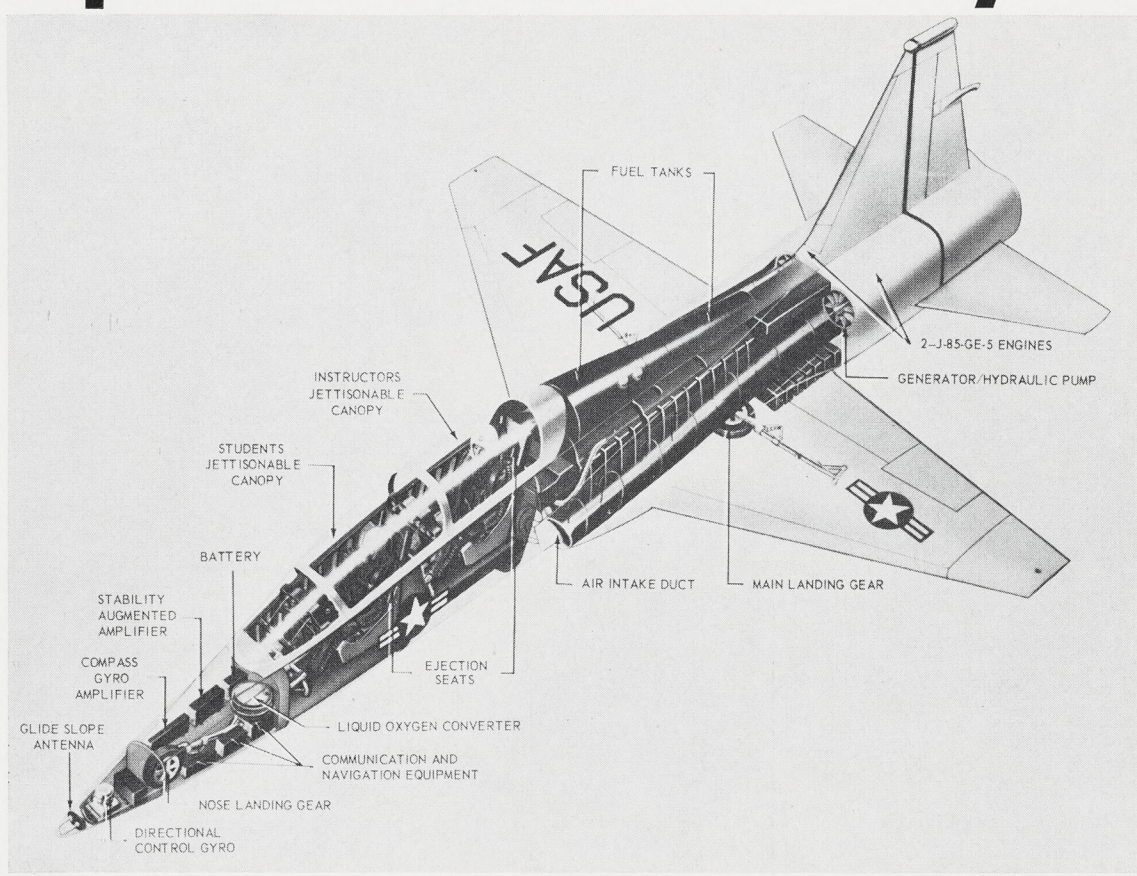
Acme Machine Works
Hawthorne, Calif.
Aero Manufacturing
North Hollywood, Calif.
Aeroquip Corporation
Burbank, Calif.
Airaterra
Glendale, Calif.
Airborne Accessories
Hillside, N.J.
Airesearch Mfg. Co.
Los Angeles, Calif.
Allen Aircraft Prods.
Ravenna, Ohio
Almor Development Co.
Long Beach, Calif.
Altair, Inc.
Los Angeles, Calif.
Altamil Corp.
El Segundo, Calif.
Aluminum Co. of America
Pittsburgh, Penna.
Aluminum Taper Milling
El Segundo, Calif.
American Tapered Wings
Los Angeles, Calif.
Anadite, Inc.
South Gate, Calif.
Andrea Radio Corporation
Long Island City, N.Y.
Aqualite Corporation
Santa Monica, Calif.
Archer Machine Prods.
Los Angeles, Calif.
Argyle Engineering
El Monte, Calif.
Arrowsmith Tool & Die
Los Angeles, Calif.
Automation Progress Co.
Inglewood, Calif.
Autonetics
Downey, Calif.
Auto-Valve, Inc.
Dayton, Ohio
Avionic Products Engr.
Dover, N.J.
Barber-Colman Company
Rockford, Ill.
Barry Controls
Burbank, Calif.
Bendix Aviation
North Hollywood, Calif.
Bertea Products
Pasadena, Calif.
Bobrick Manufacturing
Los Angeles, Calif.
Bohanan Manufacturing
Compton, Calif.
Bonsair Fabricating
Long Beach, Calif.
Bradford and Associates
Monrovia, Calif.
Braunson Electronics
Glendale, Calif.
Bridgeport Brass
Los Angeles, Calif.
Briles Mfg.
El Segundo, Calif.
Cal-Air Engineering
Compton, Calif.
California Avi-tron
Inglewood, Calif.
California-Doran Heat Treating
Los Angeles, Calif.
California Duplicating Co.
Burbank, Calif.
California Plasteck
Los Angeles, Calif.
California Rubber Products
Torrance, Calif.
Canoga Corp.
Van Nuys, Calif.
Carma Manufacturing
Torrance, Calif.
J. C. Carter Company
Costa Mesa, Calif.
Chatham Electronics
Livingston, N.J.
Chemical Contour Corp.
Downey, Calif.
Clary Dynamics
San Gabriel, Calif.
Cleveland Pneumatic Industries
Cleveland, Ohio
Coast Spar Milling, Inc.
Monrovia, Calif.
Computing Devices of Canada
Ottawa, Ontario, Canada
Conair, Inc.
Glendale, Calif.
Controlled Products, Inc.
Huntington Park, Calif.
Cornelius Company
Minneapolis, Minn.
Coastal Manufacturing
Venice, Calif.
Crissair, Inc.
El Segundo, Calif.
Crocket Manufacturing
Van Nuys, Calif.
Darco Industries
El Segundo, Calif.
Dornson Corporation
Los Angeles, Calif.
Ducommun Metals & Supply
Los Angeles, Calif.
T. A. Edison Industries
West Orange, N.J.
Electrosnap Corp.
Sherman Oaks, Calif.
Electroforms
Gardena, Calif.
Electronic Specialty
Los Angeles, Calif.
Ellis & Van's Foundry
Gardena, Calif.
Fairchild Camera & Instrument
Los Angeles, Calif.
Gabb Special Products
Windsor Locks, Conn.
General Controls
Glendale, Calif.
General Electric
New York, N.Y.
General Electric
Steam Turbine & Gear
Lynn, Mass.
G. M. Giannini & Co.
Pasadena, Calif.
Glide Easy Manufacturing
Torrance, Calif.
Globe Industries
Dayton, Ohio
B. F. Goodrich
Akron, Ohio
Goodyear Aircraft
Litchfield Park, Ariz.
Gould National Batteries
Wallingford, Conn.
Grimes Manufacturing
Urbana, Ohio
Guardian Electric
Los Angeles, Calif.
Hamilton Standard
Windsor Locks, Conn.
Harvey Aluminum
Torrance, Calif.
Hazeltine Electronics
Little Neck, N.Y.
Houdaille Industries
Buffalo, N.Y.
Hydra Electric
Burbank, Calif.
Hydraulic Research & Mfg.
Burbank, Calif.
Hydraulic Specialties
Gardena, Calif.
Hydro-Mill Company
Santa Monica, Calif.
Earle M. Jorgensen Co.
Los Angeles, Calif.
Kaiser Alum. & Chem.
Oakland, Calif.
Kavamil Company
Compton, Calif.
Kearfott Company
Little Falls, N.J.
Kett Technical Center
Santa Monica, Calif.
Kinetics Corp.
Solana Beach, Calif.
Koehler Aircraft Prods. Co.
Dayton, Ohio
Langley Corporation
San Diego, Calif.
Lear, Incorporated
Santa Monica, Calif.
Liquidometer Corp.
Long Island City, N.Y.
Los Angeles Plating
Los Angeles, Calif.
H. W. Loud Mach. Works
Pomona, Calif.
Magnesium Alloy Prods.
Compton, Calif.
Magnetic Amplifiers, Inc.
El Segundo, Calif.
Markite Corporation
New York, N.Y.
Microloc Corporation
Culver City, Calif.
Mid Continent Mfg., Inc.
Manhattan Beach, Calif.
Monrovia Aviation Corp.
Monrovia, Calif.
Morrison Engineering
Temple City, Calif.
N. T. W. Corporation
Los Angeles, Calif.
New York Air Brake
New York, N.Y.
Omega Manufacturing
Long Beach, Calif.
Parker Aircraft
Los Angeles, Calif.
Pasadena Air Products
Pasadena, Calif.
Pesco Products
Bedford, Ohio
Peterson-Jones Mfg.
Van Nuys, Calif.
Pioneer Central
Davenport, Iowa
Precision Sheet Metal
Los Angeles, Calif.
Progressive Machine
Huntington Park, Calif.
Purolator Products
Rahway, N.J.
Radar Relay
Los Angeles, Calif.
Radio Corp. of America
Camden, N.J.
Reynolds Industries
Santa Monica, Calif.
Rockwell Machine
Los Angeles, Calif.
Ronson Hydraulic Units
Pasadena, Calif.
Schulz Tool & Mfg.
San Gabriel, Calif.
Servomechanisms
Hawthorne, Calif.
Shinn Engineering
Santa Ana, Calif.
Simmonds Aerocessories
Tarrytown, N.Y.
South Gate Alum. & Magnesium
South Gate, Calif.
Southwestern Precision Co.
Gardena, Calif.
Spar Fab, Inc.
El Monte, Calif.
Spencer Thermostat
Pasadena, Calif.
Superior Electric
Van Nuys, Calif.
Swedlow Plastics
Los Angeles, Calif.
Talley Corporation
Newbury Park, Calif.
Teleflex, Inc.
North Wales, Penna.
H. I. Thompson Fiber Glass
Los Angeles, Calif.
Thompson Ramo-Wooldridge
Cleveland, Ohio
Tison Engineering
Los Angeles, Calif.
Trans Dynamics
Burbank, Calif.
Transco Products
Los Angeles, Calif.
Tru-Bor Manufacturing
Culver City, Calif.
True-Trace Mfg.
El Monte, Calif.
United States Chemical Milling
Manhattan Beach, Calif.
Univox Corp.
Los Angeles, Calif.
Utility Metal Products
Pasadena, Calif.
Vinson Manufacturing
Van Nuys, Calif.
Waste King Corporation
Los Angeles, Calif.
Westinghouse Electric
Pittsburgh, Penna.
E. B. Wiggins Oil Tool
Los Angeles, Calif.
Wyman-Gordon Company
Worcester, Mass.

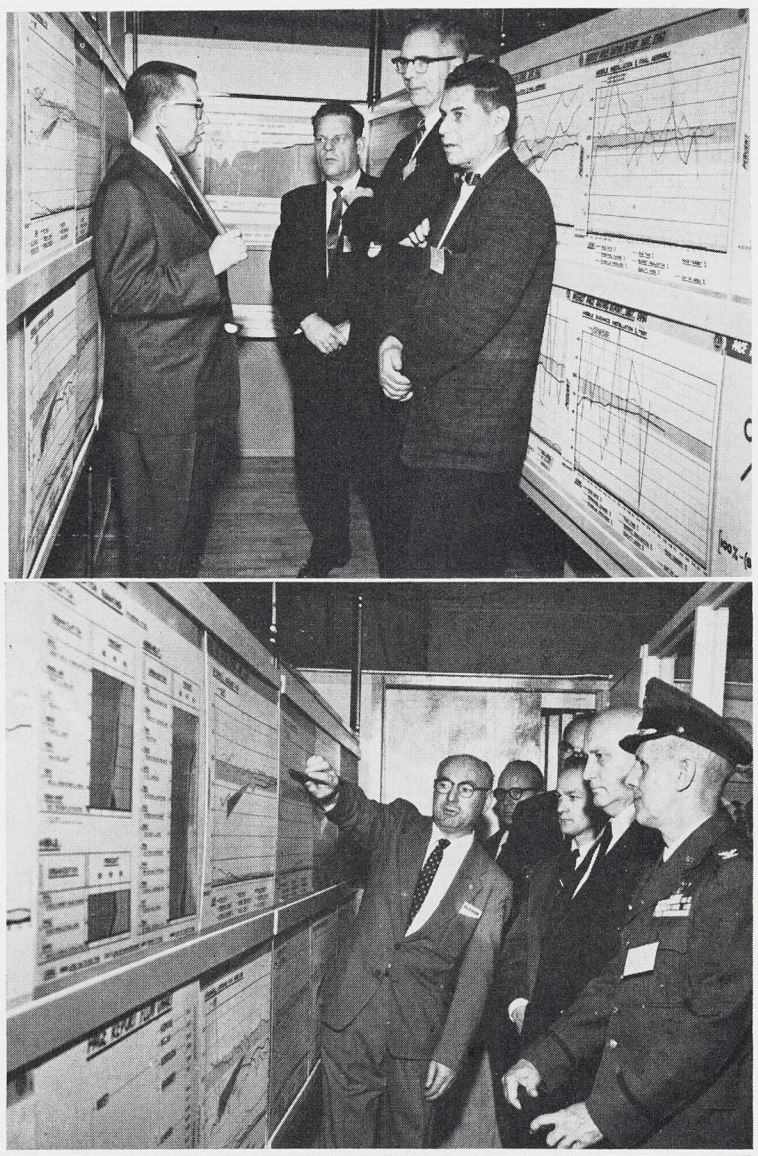
WELCOME—Jack Hinchliffe, Northrop director of Materiel, greets visitors as first order of business. Companies, over 160 strong, convened in Division's new Products Display Building, heard about their design and manufacturing share in Northrop's new airplane family—low-cost, lightweight, high-performance T-38 trainer and N-156F.



From Design Concept to Final Assembly—

EAST AND WEST—Robert R. Miller, Northrop Corporation senior vice-president, details measures Company has taken to help halt cost spiral of defense goods to Cleveland Pneumatic Industries' President S. S. Mullins and Airesearch Manufacturing Company's Howard Mulder. Garrett Corporation's insignia may be seen upper right.





PHOTOS—Complete project information was available to all supplier team members at Public Relations booth in temporary display annex. Visitor demand was heavy for T-38 cutaway views, fact sheets and photographs.

TOUR HIGHLIGHT — Highlight of the afternoon tour was PACE area and graphic description of how this management tool helps control cost by performance and cost evaluation. From left, PACE man, T. M. Frederick; J. H. Anderson, Cal-Air, Compton; Mr. Mitchell; J. A. Maher of Electroforms, Inc., Gardena, California.

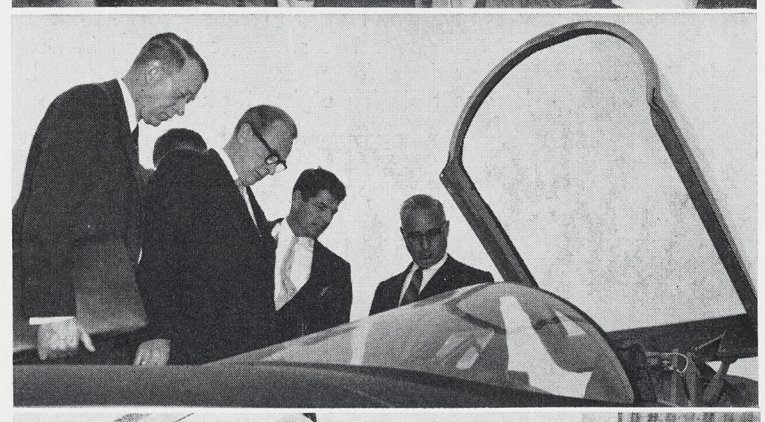
PACE—R. L. Pummer, Northrop PACE man, explains features of this money-saving program. From front to rear, Colonel Daniel A. Cooper, chief, Los Angeles Air Procurement District; Mr. McLarnan; W. F. Palmer, general sales manager, Tru-Bor Manufacturing Company, Culver City; H. C. Given, executive vice-president, Waste King Corporation, Engineering and Development Division, Los Angeles; and S. W. Towle, Northrop Washington rep.

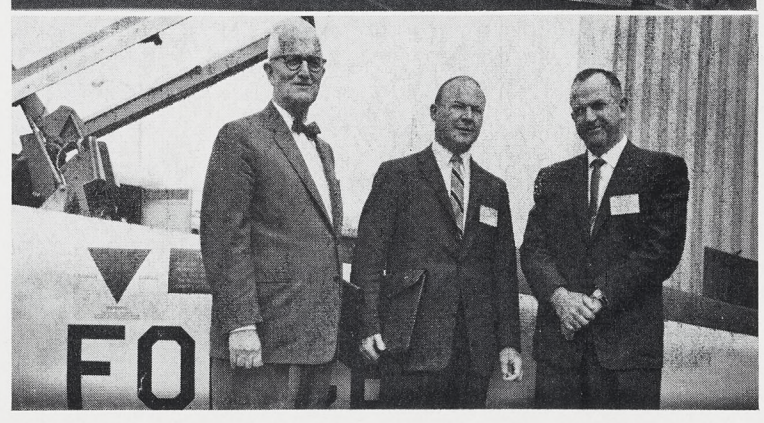
HIGH INTEREST—Manufacturing R & D area, where visitors studied Northrop's advance production processes, served to acquaint visitors with methods used on the T-38 Talon project.

STUDY—Northrop N-156F Project Engineer Ray Gardner, explains cockpit design to supplier team members Everett D. Farr, sales manager, Andrea Radio Corporation, Long Island, New York; Morris R. Beard, general manager, Magnetic Amplifiers, Inc., El Segundo; Richard M. Mock, president, Lear, Inc., Santa Monica.

LAAPD—Los Angeles Air Procurement District officials George Byrnes, chief, Small Business Division and Contractor Relations, and D. O. Shaw, chief, Production Division, are acquainted with the Talon concept by George Douglas, Northrop vice-president, Engineering.

GENERAL ROBEY—Lee H. Smith, Northrop director, Customer Service, explains low-cost maintenance, high-percentage-of-air-time features inherent in the T-38 Talon design to Major General P. H. Robey, commander, Ogden Air Materiel Area, and Richard M. Mock, Lear, Inc.





Formerly the Northrop News

Norair News

Issued biweekly by Norair Division of Northrop Corporation • Wednesday, February 11, 1959

AIR FORCE AND NORTHROP TO START N-156F NEGOTIATIONS

The U. S. Department of Defense has announced that the Air Force will shortly begin negotiations with Northrop Corporation for contractual coverage on the N-156F development program.

The N-156F program calls for a lightweight multipurpose jet fighter for possible utilization by allied nations.

Whitley C. Collins, Northrop Corporation president, in commenting on the contract negotiations, stated, "The N-156F program is of great importance not only for our Company but for our nation and the free world. By making U. S. technology available to our friends abroad in equipment specifically tailored to their needs—such as is being done through the N-156F—Northrop has undertaken to assist the government in pioneering a bold new approach to mutual defense.

"Many Northrop people have participated in the N-156F since inception and I want to take this opportunity to both congratulate and thank each of you for our success as reflected in this good news. I believe we can all take pride in being a part of such an effort."

Norair Division Engineering has brought the N-156F through a major portion of design and testing stages. Advanced Production is now in the process of assembling the first airplanes.

First public view of the N-156F configuration was unveiling of the mockup during T-38 rollout ceremonies last fall.

President Collins Elected To LA Area Safety Board

Northrop President Whitley C. Collins has been elected to the Board of Directors of the Greater Los Angeles Chapter, National Safety Council, it has been announced by J. M. Kaplan, secretary-manager of the organization.

Mr. Collins received his appointment at the Council's twentieth Annual Meeting held Thursday evening at the Beverly Hilton.

Safety Council memberships are made up of Southland industrial, community, and civic leaders.

Speaker for the meeting was California's new Governor, Edmund G. "Pat" Brown.

NRC Pilot Clubs Snark Set, MTF Juniors All Set

The two newest groups in the highest circles of Florida society are Snark Set and Northrop Juniors. The first is composed of wives of Norcrafters and lady Norcrafters; the second is for younger MTFers.

Charley Boyle, chief, Norair Personnel Activities, whose visit to the Sunshine State coincided with the inauguration of these two NRC-sponsored groups, brought back the details.

Snark Set received its sendoff at a luncheon at Ramon's Restaurant in Cocoa Beach. (See photo, Page 4.) Plans for electing officers were formulated, as well as

(See SNARK SET, Page 4)

Northrop Commended For "Mrs. Jones" Film

Northrop's part in building the greatest peacetime civilian defense organization in the history of the nation was the subject of thanks extended by Lieutenant General J. H. Atkinson, commander of the USAF Air Defense Command.

In a letter to President Whitley C. Collins, General Atkinson stated that the Northrop-produced film, "Mrs. Jones, Meet Your Partner," was instrumental in the organization of the civilian Ground Observer Corps.

The Ground Observer Corps, inactivated as of January 31, was one of the nation's deterrents against the threat of air attack during the period when air defense required civilian participation.

"I hope that these expressions of appreciation will reach all the Northrop people who helped in the GOC promotion program," the general wrote. "We are aware of a debt of gratitude which we can only discharge by saying a very sincere 'thank you'."

Orchids to the Gals Cafeteria-lunching Friday, February 13

Orchids will be valentines for diners of the fair sex this Friday, February 13.

In recognition of Valentine's Day Saturday, a Princess Aloha vanda orchid will be presented to each lady Norcrafter cafeteria-lunching Friday. This is true of both Norair cafeterias — Plants One and Three—and the Nortronics cafeteria, Plant Two. First and second shift lady lunchers are included.

According to Fred Wolfe, manager, Cafeteria, this Valentine's Day bonus is only the first of 1959's special events for cafeteriaing Norcrafters. Surprises have been planned for March 17, St. Patrick's Day, and Easter. These will be detailed in future issues of the *News*.

CLAY PROMOTED AT RADIOPLANE

The assignment of long-time Norcrafter W. R. "Pappy" Clay as assistant manager of the engineering department of Radioplane was announced by S. E. Weaver, the Division's vice-president and manager of Engineering.

Mr. Clay joined Radioplane from the research and development laboratories of Rheem Manufacturing Company where he was chief administrative engineer. He later served as director of the R&D labs. Prior to joining Rheem, Mr. Clay was a director of Missile System Development on the Snark at Hawthorne. In early 1953 he was appointed chief project engineer in aircraft as well as missiles.

GEORGE DOUGLAS TO IAS COUNCIL

George Douglas, vice-president, Engineering, was elected to the council of the Institute of the Aeronautical Sciences at the Institute's Annual Honors Night Dinner, according to IAS President William Littlewood. The council is the governing body of the IAS.

NEWS BRIEFS

FRONT DOOR HELIPORT—VIPs to Northrop-Norair will soon be afforded the up-to-date hospitality of being set down at the very front door of the administration building, it has been announced by Vice-president and General Manager Dick Nolan . . . Application for permission to land the Company helicopter in this area has been made to the Federal Aviation Agency and the city of Hawthorne by Max Stanley, chief, Flight Support Operations. The decision on the approval is expected at the end of this week. Also, the new service will increase efficiency of already efficient Company helicopter service by eliminating transportation and time involved in visitor flight field landings.

TECHNICAL PAPER COORDINATION—Regular monthly meetings of Division representatives responsible for programming technical papers for delivery and publication are now being held in the office of A. V. Cline, director, Corporate Public Relations. Northrop-Norair technical publication coordinator is Charlie Eyres . . . Coordinated effort is to stimulate propagation of scientific and engineering research data and to give direction to technical paper presentations by tieing them in with Company objectives. Exchange of scientific ideas is encouraged by presentation of technical papers at meetings and symposiums of technical societies and associations, and by publication in scientific periodicals. In the last six-month period over two dozen papers were presented. According to Mr. Eyres, this figure is slated to increase in coming months . . . On 28 January Astronautics' Ralph Hakes presented a paper entitled "Some Fundamental Problems Associated with Injecting, Orbiting and Recovering a Man from Orbit" at the IAS Symposium on Aero-space Technology in New York. John Van Hamersveld, Design Support, will speak on "Beryllium Extrusions" at this month's national meeting of the Institute of Metallurgical and Mining Engineers in San Francisco . . .

SURVEY—Northrop Corporation has been host during the past week to an industrial survey team under the sponsorship of Major General F. H. Robey, commander, Ogden Air Materiel Area and staff of Air Force specialists in all areas of industrial management and practice. Team is drawn upon from OOAMA, ARDC, and AMC. (See News Briefs, 28 January 1959.) It is believed that the team will complete its studies of all Corporation Divisions by the end of this week. At that time a critique scheduled for Friday, 13 February, is planned for all Corporate and Division management.

BLOODMOBILE

→ see Page 4

INTEGRATED CC—Integrated Cost Control has been placed under the direction of Treasurer Dan H. Hill and moved organizationally from Administrative Services to Finance, it has been announced by General Manager Nolan. Reason—prime function consists of accounting policy and practice. Objective—to better expedite and implement expansion of our cost control systems . . . No change in structure or personnel is contemplated . . . Finance will continue to place emphasis strongly on bringing into sharp focus all Division elements that affect predicted costs . . . Integrated Cost Control has been an operative management tool for 18 months. Assignment has been to chart a consistent pattern of costing and recordkeeping in order that bid proposals, cost estimates, sales order patterns and charts of accounts will all represent the same elements of cost, speak the same cost language. Permanent reports from Integrated Cost Control will be recorded for all levels of management as well as for the customer . . . Other Integrated Cost Control advantages to be gained by consistent use include management ability to relate and measure work performance, more accurate completion percentages, more effective control techniques for all operations.

TEAMWORK—President Collins headed a 10-man Northrop delegation to the recent 38th Air Force-Aircraft Industry conference. During the four-day meet, the 350-plus conferees heard more than 20 presentations delivered on the keynote topic, teamwork. Mr. Collins is shown in an informal discussion with Lt. General Elmer J. Rogers, jr., USAF inspector general, and Henry P. Nelson, president, Menasco Manufacturing Company, Burbank. Palm Springs conference was hosted by Major General Joseph D. Caldara, director, USAF Flight Safety Research.

"VELLCOME"—The spelling may not be the best American, but the sentiment's international. Orphans of Asilo de Santamarca hold up Epiphany gifts delivered by SAC—NRC Norcrafter-dressed dolls for the ninas.

MAMACITA—She'll lullaby her doll in Spanish, but no words can express the gratitude in her dark eyes.

Headquarters 16th Air Force

To All Norcrafters:

The Christmas season has come and gone and the prestige of Americans and the U.S. Air Force has reached a new high in the eyes of the Spanish people and, in particular, of almost two hundred poor and sick little orphan girls in Madrid — thanks to the ladies of your Northrop Recreation Club.

Last Tuesday, 6 January, which is the traditional Three Kings Day—the day Spaniards exchange gifts—we visited two girls' orphanages and a hospital for crippled children and presented the dolls. A more touching scene you have never seen as these little girls received their dolls with utter disbelief. To these little parentless and sick children these dolls were gifts from heaven. A more worthy cause has never before been undertaken by the Northrop Recreation Club. To all those who made the dolls, please accept the most heartfelt gratitude of the 16th Air Force.

George Schenkein
Lt. Colonel, USAF
Chief, Information Services

BBSF Classified Ads

BBSF classified ad service is provided free of charge to all Norcrafters.

Items advertised in "For Sale" and "For Sale or Trade" categories are limited to a maximum of $50. Price must be stated.

Box numbers will be provided for Norcrafters who do not have home phones or who do not wish calls. Replies to box numbers are to be in writing and sent to the *News* office.

Ads for agencies, commercial enterprises and private businesses are not accepted.

Deadline is noon Monday, nine days before publication.

FOR SALE

HEATERS, 2; gas, $10; electric, $5. AX 3-8452. A

MUSIC CENTER, Hoffman radio & record player, blonde console, $30. GA 3-1363.

TRAILER, 4'x7' 2-wheel utility-type; 2' stake sides; tarp; turn, stop & tail lites; $50. FR 4-7059. A

WASHER, Frigidaire, $50. OS 5-7414. A

RANGE, O'Keefe & Merritt, top griddle, 4 burners, clock, lite, salt & pepper shakers, $50. GA 3-2261. A

BABY BED, deluxe, adjustable side, $15. PL 5-6610. A

FIRE BRICKS, used, 8¢ ea. PL 4-8142. A

REFRIGERATOR, Servel, 6 cu ft, $20. OS 6-6686. A

BOW, Corky Johnson left-hand recurve, 5'6", 47 lb at 28", $35. NE 5-2521. A

PARAKEETS, baby, various colors, $2 ea. TE 4-0724. A

LAMP, provincial-type, 30", washable shade, $10. FR 5-8245. A

RUG, American Oriental 9'x12', red, $25. AX 3-4449. A

WASHER, Bendix Economat automatic, $50. PL 3-6315. A

MANGLE, $50. FR 2-5134. A

TV SET, Dumont 17", just overhauled, $50. HA 1-5431. A

TRAINS, HO-gage, w/case, cost over $300, $50. GE 1-4233. A

HEATER, Fan-Glo electric, $13. FR 6-2536.

HOUSEHOLD FURNISHINGS, table, chrome & green, 4 chairs, $20; rugs, 2 matching, 9'x12', 6'x10', floral, wool, $25. OS 5-2296. A

FURNITURE, divan, chair, green, $50. RI 8-9117. A

TV SET, RCA 21" table model, dk mahogany, swivel base, $50. FR 9-5088. A

BICYCLE, J. C. Higgins, racing-type, $20. DA 4-4352. A

PONTIAC, 1941 club coupe, 1959 license, $50. NE 8-2457. A

OUTBOARD CONTROLS, Scott-Attwater, 8 mo old, fit 14' runabout, $20. TE 5-3821.

TOYS, pedal firewagon; tricycle, $10"; $6 ea. OS 5-9740. A

VENETIAN BLINDS, 36"x54", $8. PL 5-7521. A

WASHER, ABC automatic, $15. OS 5-0838. A

MICROMETER, Starrett 1"-2", $20. PL 7-3774. A

TRAILER, 2-wheel, 1.5'x4'x5' metal bed, extra 4'x5'x6' hardwood utility bed, custom-bilt, 4.00x8 tires, lites, $35. DA 9-9464. A

LAMP, floor-type, maple, w/center shelf, $10. FR 4-5171 after 9 a.m. A

RANGE, gas, clock, timer, lite, $35. FR 5-0867. A

REFRIGERATOR, Westinghouse, 7.5 cu ft, $50. DA 4-7529. A

TYPEWRITER, Underwood noiseless standard, elite, $35. OS 6-3590. A

MANGLE, Easy, $50. FR 5-9648. A

FOR SALE

TABLE, portable, 72"x30" open-size, steel w/black marble baked-on enamel finish, cost $30, $15. GA 7-3157. A

RABBIT, Dutch, 2-yr-old female, $2. OS 6-3138. A

TYPEWRITER, Remington noiseless portable, w/case, $35. FR 2-8148. A

CAMERA, Photrix 35-mm, Cassaron f:2.8, 1-300 MXV shutter, coupled RF, LVS, $40. GL 4-7770. A

BED, double-size; mattress, Simmons Beautyrest; box spring, orthopedic; $50. OS 5-1842. A

YOUTH BED, maple, mattress, $20. FR 6-0693. A

BABY EQUIPMENT, cribs, 2, w/mattresses—Babyline, natural, 3 yr old, $18—maple, 6 yr old, $14; swing, $3.50. PL 6-5939. A

TUGBOAT, 40", steam, radio-controlled, w/receiver & transmitter, $37.50. FR 5-6665. A

GOLF CLUBS, 2 woods, 5 irons, bag, cart, $40. DA 4-0032. A

SHUTTERS, pr, 18"x56", $5. GR 7-1539.

SHOES, black elevator-type, man's size 8½D, $10. DA 6-1572. A

WASHER, Westinghouse Laundromat, $40. PL 5-6615. A

DINING ROOM TABLE, contemporary walnut, 38"x66", custom, solid top, hand-rubbed finish, $50. PL 5-2879. A

WANTED TO BUY

TRAILER, utility-type. Box 903. B

HEATING EQUIPMENT, stove, gas or oil; thermostat. FR 9-6197. B

SURF BOARD, 8'3" or longer. EX 8-3840.

TAPE RECORDER. EA 2-3835 weekends.

GUITAR, classical-type, Goya or other Spanish-type. NE 8-3059. B

RADIAL SAW. TO 9-8937. B

FOR TRADE

ORGAN, 50-key, pedals, trade for radio-phono hi-fi. Box 902. C

BUNK BEDS, maple, trade for double or ¾ bed, prefer maple. FR 4-8732. C

FOR SALE OR TRADE

WATCH, Hamilton lapel-type, 17-jewel, white-gold-filled in diamond-cut rhinestone heart-shaped setting, custom, cost $250, $50 or trade for typewriter w/automatic tab set. DA 6-4776. M

BICYCLE, 1957 Schwinn Wasp boy's 26", knobby tires, coaster brake, cost $79, $38 or trade for gas welding equipment. PL 6-0684. M

WASHER, Norge automatic, $40. Box 901. M

VACUUM CLEANER, Modern Age, $40. PL 8-5790. M

WASHER, Kenmore automatic, $25 or trade for girl's 26" English-type bicycle. FR 7-2532. M

brain / drain

In the following issue, the News *will print the first solution received by mail.*

Each pair of railroad wheels is rigidly assembled to an axle—allowing no differential of rotation.

With this in mind, how do trains go around curves without one wheel sliding?

The first correct solution to last issue's brain/drain was submitted by C. Z. Stine, 4300. He divided the wine into two portions in seven steps. N. R. Bailey, 5234, and S. F. Rakestraw, 1232, were runnerups.

Industrial Engineers Hear Dave Peterson Discuss PACE Theme

D. N. Petersen, chief manufacturing methods engineer, was one of the main speakers at the 11th annual Industrial Engineering Institute, which met last week at UCLA.

Petersen addressed the session on "Labor Cost Control through Performance Sampling—PACE." His basis for this topic is the PACE program here.

The two-day institute brought together industrial engineers and managers for discussions of the latest practice and research developments in their fields.

Topics ranged from operations research, multi-factor wage incentives, and long-range planning to the engineer's role in today's business and psychology of man-machine performance.

Also scheduled were tours of the UCLA Western Data Processing Center and engineering laboratories.

Three Norcrafters at UCLA Lecterns for This Semester

Three Norcrafters will lecture on their specialties at University of California Extension for the semester just under way.

Arthur G. Pearson, Materiel, teaches an evening course in Advanced Purchasing which starts tonight at the downtown Extension center, 813 South Hill Street.

Arnold A. Jensen, supervisor, T-38 Project Aerodynamics, lectures in Engineering Aerodynamics at the Westwood campus. Dr. Leonard Pode, Airborne Electronic Systems, is to serve as instructor for a course in Analysis of Servomechanisms, starting tomorrow evening, also at Westwood.

These courses are among 200 evening classes in all fields of business administration and 400 in engineering, mathematics and the physical sciences offered by UCLA Extension in the greater Los Angeles area. Also scheduled are graduate programs in mathematics and engineering and special certificate programs.

J. E. PETERSON ON JOB ON TIME EVERY DAY FOR THREE DECADES

Norcrafter John E. Peterson has amassed an amazing total of 30 tardy-free absence-free working years.

Now leadman, Tool Cribs and Tool Stores, John has been with Norair for the last 16 years. The preceding 14 were with the May Company.

According to John's foreman, Tom Pratt, John's perfect record for 1958 was matched by 36 per cent of Tool Cribs and Tool Stores Norcrafters.

ACACIA CLUB INSTALLS SANBORN AS NEW PREXY

Flying Wing Acacia Club members will hold formal installation of new officers at Club Alondra February 21, it has been announced by the outgoing president, Howard Cornelius.

Jim Pearson, who founded the club in 1942 and who served as first president, will officiate.

New officers are George Sanborn, president, and vice-presidents, Nortronics, V. P. Nelson; Norair, Earl Easson—Plant One, Dave Carney — Plant Four and Doc Cook — Engineering Center. Chairman of the board of directors is Jim Murphy and treasurer, Bob Wygant.

Dancing after dinner will be to Eddie Truax and his Rhythmaires.

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CHARLES BRADFORD, Editor

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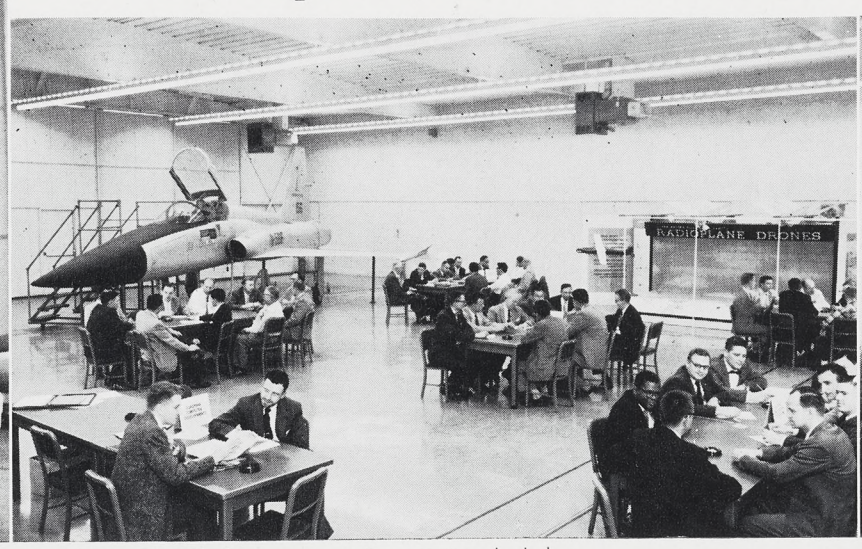
Northrop-Norair Hosts WSC Symposium First



EXPERTS TALK COMPUTERS—In an unprecedented all-day symposium attended by members of both the Western Simulation Council and the Digital Differential Analyzer Council, the finer points of analog computers were analyzed and round-tabled. Morning's business was devoted to presentation of technical papers by Council members who had participated in international conference in Europe. Old World—including Russia—state-of-the-art was featured. Afternoon panel discussions in Products Display Building were apportioned into seven groups. Lee Ohlinger, chief, Computing and Datamation Center, hosted visitors on behalf of Northrop-Norair management.

ANNIVERSARY—The Loths, Phil and Bertha, wrote a record when they proudly became the first man-and-wife team to receive 15-year pins in the same month. Pin presentations were made by General Manager Dick Nolan. John B. Clark, director, Industrial Relations, center, congratulates Mr. and Mrs. Loth after ceremony.

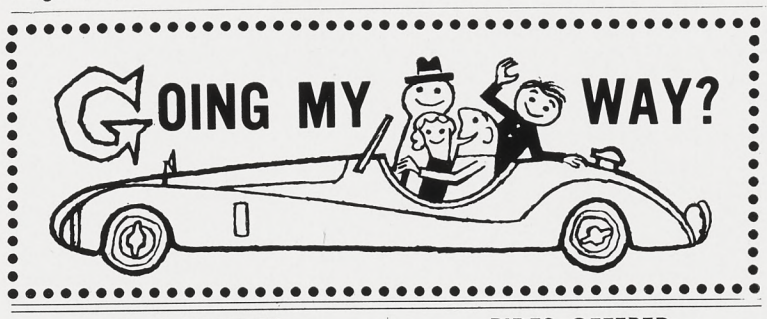
HISTORIC FIRST — First jet airliner from east to west carried Northrop - Norair shipment of Snark precision engine parts. Flight was American Air Lines. Railway Express men B. M. Neal, general sales agent, and driver L. D. Shields, turn package over to Bill Zuetell, Norair general traffic manager, right. Big Boeing 707 which Norcrafters helped build is in background.

TIME SAVED—John Bourke, plastics fabricator leadman, Plastics Shop, receives $600 Suggestion Award check for his approved idea that saves many hours per ship-set on the Boeing contract. From left, congratulating John, are Walt Sadesky, R. R. Chester and Jim Reddick. At right is George Hunt, Suggestion Award representative. Payoff idea eliminated "fence" detail work.

Norair News Pictorial

FIRST MEETING—First official dinner-meeting of the new Department of Defense Industrial Property Management Association shows M. G. Pellerin, chief, Northrop Air Force office, Contract Division; Colonel Daniel A. Cooper, chief, Los Angeles Air Procurement District; and John J. Brosnan, chief, Industrial Property Division, LAAPD, and first president of the Association reviewing program for the evening. Colonel Cooper was featured speaker. He discussed importance of AF industrial property management, relationship to contractor. Meetings will be monthly.

TEAM STUDY—As a preliminary to Company enrollment in the Purchasing Agents Association's "Professional Purchasing" course now under way at the Union Oil Center, H. Lee Weber, director, second left, visited Norair to outline details of Q-C—Materiel team efforts for profit. From left are Bob Catlin, manager, Quality Control; Mr. Weber; Art Pearson, buyer and Association education chairman; Q-C men Jack Young, chief, Subcontracts and Fabrication, and Dan O'Halloran, chief, Receiving and Offsite Inspection; Tom Darden, chief, Industrial Training Administration; Ed Bates, administrative assistant, Q-C. Men from Materiel who took part in visit were C. G. Keach, chief Purchasing agent, and Dick Spring, chief, Materiel Operations. Mr. Weber is 30-year man in purchasing. Course has 300 men from Southern California industry; 17 are from Norair.



RIDES WANTED

7:00 a.m. — 3:45 p.m.

(Zone 5)
ALAMEDA & EL SEGUNDO BLVD., Compton. ROD DE LA ROSA (5503-49815, ext. 2681). 2-5

SPRING & STUDEBAKER, Long Beach. (Desire car pool; have "C" pass.) ZIG DETZ (7734-27087, ext. 2236). HA 1-3361. 2-5

(Zone 8)
ANZA & SEPULVEDA, Torrance. R. J. BENNETT (3373-42808, ext. 1579). FR 5-0838. 2-8

(Zone 10)
LONGFELLOW & MORNINGSIDE. Hermosa Beach. D. L. GARRETT (5508-10515, ext. 2755). FR 6-5256. 2-10

PRAIRIE & 136th ST., Hawthorne. DORA COLLINS (5352-16136, ext. 540). OS 5-6285. 2-10

(Zone 13)
CENTINELA & LA BREA, Inglewood. L. D. REBER, JR. (5508-10377, ext. 2308). OR 3-3521. 2-13

SAWTELLE & SEPULVEDA, Culver City. ARTHUR WEISS (5963-40670, ext. 1284).

7:30 a.m. — 4:15 p.m.

(Zone 1)
EL MANOR & 77th ST., Los Angeles. (Desire car pool.) F. C. BAIN (7620-19991, ext. 2158). OR 4-6816. 3-1

(Zone 5)
CARSON & STANTON, Anaheim. (Established car pool.) W. A. DAY (8920-27542, ext. 667). JA 7-4270. 3-5

(Zone 7)
AVALON & CARSON, Torrance. DELORES SCOTT (9542-44821, ext. 2761). TE 5-3821. 3-7

(Zone 9)
PRAIRIE & 163rd ST., Lawndale. SALLY BALLARD (1231-10939, ext. 2331). FR 6-4359. 3-9

ANZA & SCOTT, Torrance. BARBARA GILLETTE (1421-12231, ext. 691). 3-9

(Zone 10)
HERMOSA AVE. & 35th ST., Hermosa Beach. SANDRA TYLENDA (1231-12062, ext. 2331). FR 4-7751. 3-10

8:00 a.m. — 4:45 p.m.

(Zone 1)
WESTLAWN & 80th ST., Los Angeles. (Desire car pool.) W. P. RODDEN (3275-12187, ext. 459). OR 7-3301. 5-1

(Zone 4)
IMPERIAL & PARAMOUNT, Downey. (Consider car pool.) M. L. WESTCOTT (3566-49669, ext. 1475). TO 2-0506. 5-4

(Zone 5)
BROOKHURST & LINCOLN, Anaheim. (Desire car pool.) M. SETZER (3160-30661, ext. 2695). PR 4-3503. 5-5

(Zone 9)
HAWTHORNE BLVD. & HWY 101, Walteria. MARIE CLAIR (3370-43864, ext. 2751). DA 5-0558. 5-9

PALOS VERDES DR. NORTH & SILVER SPUR, Rolling Hills. ROLLIN STURGEON (2851-47242, ext. 2531). FR 8-4345. 5-9

(Zone 10)
HIGHLAND & ROSECRANS, Manhattan Beach. F. J. HOERMAN (3322-10925, ext. 2024). 5-10

HAWTHORNE BLVD. & 147th ST., Lawndale. B. J. MONSON (5161-14876, ext. 6191). OS 5-1350. 5-10

MARINE & PACIFIC COAST HWY, Manhattan Beach. CLAUDIA ROWLEY (2440-55653, ext. 1493). FR 2-1448. 5-10

(Zone 12)
LINCOLN & WILSHIRE, Santa Monica. FRANCES O'DANIEL (6110-25170, ext. 1166). EX 3-8641. 5-12

CENTINELA & JEFFERSON, Culver City. (Desire car pool; pass available.) HAL FISHER (3566 - 50302, ext. 463). EX 1-1869. 5-12

(Zone 13)
SEPULVEDA & VENICE BLVD., Los Angeles. (Desire car pool.) ALBIN JOHNSON (8820-56434, ext. 562). VE 9-3075.

CENTURY & INGLEWOOD AVE., Inglewood. VI BODDY (7420-27158, ext. 2418). OR 7-6948. 5-13

4:45 p.m. — 1:15 a.m.

(Zone 7)
WESTERN & 166th ST., Gardena. HARRIET BRYANT (5508-19781, ext. 2755). 8-7

Miscellaneous — Split Shift

(Zone 10)
BROADWAY & PRAIRIE, Hawthorne. (Mariposa—hours: 6:45 a.m.—3:15 p.m.) MARY ELLEN HOLBROOK (1421-53647, ext. 3-691). OS 9-4109. 10-10

RIDES OFFERED

7:00 a.m. — 3:45 p.m.

(Zone 5)
SPRING & STUDEBAKER, Long Beach. (Desire car pool; have "C" pass.) ZIG DETZ (7734-27087, ext. 2236).

RIDES OFFERED

7:30 a.m. — 4:15 p.m.

(Zone 1)
EL MANOR & 77th ST., Los Angeles. (Desire car pool.) F. C. BAIN (7620-19991, ext. 2158). OR 4-6816. 13-1

(Zone 5)
CARSON & STANTON, Anaheim. (Established car pool.) W. A. DAY (8920-27542, ext. 667). JA 7-4270. 13-5

BELLFLOWER BLVD. & SPRING, Long Beach. (Via Del Amo or Artesia.) K. N. ANDERSON (9630-22097, ext. 1961). 13-5

(Zone 12)
LINCOLN & WILSHIRE, Santa Monica. C. C. FOWLER (9420-29291, ext. 2151).

8:00 a.m. — 4:45 p.m.

(Zone 1)
WESTLAWN & 80th ST., Los Angeles. (Desire car pool.) W. P. RODDEN (3275-12187, ext. 459). OR 7-3301. 15-1

(Zone 4)
IMPERIAL & PARAMOUNT, Downey. (Consider car pool.) M. L. WESTCOTT (3566-49669, ext. 1475). TO 2-0506. 15-4

(Zone 5)
BROOKHURST & LINCOLN, Anaheim. (Desire car pool.) M. SETZER (3160-30661, ext. 2695). PR 4-3503. 15-5

(Zone 8)
ANZA & SEPULVEDA, Torrance. ANITA KUEGEMAN (3144-12541, ext. 1848). FR 5-5317. 15-8

(Zone 12)
CENTINELA & JEFFERSON, Culver City. (Desire car pool; pass available.) HAL FISHER (3566 - 50302, ext. 463). EX 1-1869. 15-12

LINCOLN & MANCHESTER, Westchester. I. SHERLOCK (3465-34690, ext. 1562). EX 8-4032. 15-12

(Zone 13)
SEPULVEDA & VENICE BLVD., Los Angeles. (Desire car pool.) ALBIN JOHNSON (8820-56434, ext. 562). VE 9-3075.

KICKOFF LUNCHEON — MTF's Snark Set inaugural meeting was well attended by women of facility. (See story, Page 1.) Around table at upper left are, clockwise from sign, Charley Boyle, Mrs. Thomas, NRC Vice-president Woody Thomas, Industrial Relations MTF Representative Jack Cushman, Mrs. Cushman, and Mrs. R. J. Katowski.

NEXT BLOODMOBILE VISIT SET FOR FEBRUARY 18

Norcrafter Carl Claybaugh can attest to the merits of the Northrop-Norair bloodbank.

In November of last year his daughter, Rosale Daly, underwent open-heart surgery. While she was on the operating table, 46 pints of blood were consumed. Presurgery treatment required an additional 26 pints.

The bloodbank would have provided more pints . . . but Rosale died. The 72 pints—nine gallons—of blood that kept her with her family for those extra months add up to only one case of literally hundreds where the bloodbank has aided Norcrafters.

The bloodbank, from which all Norcrafters and their families are eligible to draw blood at no cost, is at an all-time low, according to Ed Truax, Personnel Activities.

To attain once again a safe operating margin for emergencies, the bloodmobile is slated for its quarterly visit one week from today—February 18.

Organization clerks throughout Plant One, Engineering Center, and Nortronics Plant Two are distributing application blanks for the 300 donors that can be handled during the scheduled visit from 9 a.m. to 2 p.m. The facilities will be located, as usual, in the Northrop Recreation Clubhouse.

There blood will be exchanged for secure feelings of gratification—and free refreshments.

Norair Flotilla 65 Lauded; New USCGA Seamanship Classes Slated

Norair Flotilla 65, U.S. Coast Guard Auxiliary, hosted Division VI, USCGA, at the NRC Clubhouse recently. The event marked the retirement of Captain Ray Hampton.

While serving as the Division's commanding officer, Captain Hampton encouraged and trained NRC Boat Club members and was instrumental in the formation of Flotilla 65.

In summing the accomplishments of Flotilla 65 during the past year, Captain Hampton noted that they had achieved runnerup position for fine performance in the Long Beach Seaair review in December.

Norcrafter Jack Shannon, Flotilla 65 commander, was presented with a trophy for the best all-around member of USCGA Division VI. Fred Wheeler, former NRC Boat Club commissioner, received a certificate for outstanding work in public instruction at the same meeting.

Captain Hampton also called attention to the official USCGA classes being conducted by Flotilla 65. These courses in small boat piloting, aids to navigation and general seamanship are free to the public. The three-hour classes are held one evening a week for 12 weeks. Upon satisfactory completion of the course, a certificate will be issued by Coast Guard.

The classes are being offered in 26 locations. The six in this area are Hawthorne: Naval Reserve Building, 201 West 126th Street; Inglewood: Crozier Jr. High School, 151 North Grevillea; Redondo Beach: 119 North Harbor Drive; Westchester: Westchester High School, 7400 West Manchester; Torrance: Fern School Cafetorium; and Wilmington: Banning High School. Information on class times and other locations may be obtained from Jack Shannon, extension 1866.

Travelers Firm European Tour Plans; Vegas on Tap

The NRC Travel Club's European holiday is now in its final planning stages.

The trip will consist of a 23-day nine-country tour with stopover privileges in New York City and is open to all Norcrafters and their families. Complete information, including literature, may be obtained from all Personnel Activities offices. The next Travel Club meeting, scheduled for 7:30 p.m., Monday, February 23, will be devoted to planning a Las Vegas weekend. The holiday will be made by chartered train with hotel accommodations, show reservations, meals and refreshments to be included in a one-price package.

SQUARE JETS TO BE HOEDOWNED BY ANAHEIM NRC

Square Jets, Norair-Hawthorne Square Dance Club, will be feted, do-se-do style, by their Nortronics - Anaheim counterparts. Meeting of the "country cousins" is slated for this Friday evening at the Anaheim Clubhouse, according to Frenchy LaVigne, Anaheim commissioner.

Frank Yount and Ralph Hill, well-known Southern California callers, will devote their vocal chords to whirling the denimed and ginghamed dancers.

T-M CLUBS JOIN HANDS FOR SWEETHEART DANCE

NRC kings and queens of the spoken word, ad lib or otherwise, are joining forces—and conversations—Saturday, February 28. On this evening, the spotlight will be focused on Terpsichore, muse of dance, rather than Polyhymnia, muse of oratory.

"Sweethearts Dance" is being sponsored by all three Toastmaster groups and the Toastmistresses — the first joint social meeting in NRC T-M history.

Music will be provided from 8 to 12 p.m. by the Hi-Fives. Tickets are $1.50 per person and may be obtained at Personnel Activities, Plant One.

·basketball·
postseason tourney
entry deadline
Monday, Feb. 16
extension 2784

Snark Set—

(Continued from Page 1)

future activities. Snark Setters envision participation in community programs, staging of fashion shows, dovetailing their youth activities with Northrop Juniors.

Kickoff meeting of the Northrop Juniors was a "Sunday Funday" at Eau Gallie's Civic Center. In addition to the games, contests and refreshments that sparked the festivities, each youngster was presented with a Snark-emblazoned Northrop Juniors T-shirt. "Sunday Funday" was presided over by Jack Cushman, Industrial Relations, and Woody Thomas, NRC vice-president.

According to Mr. Boyle, Snark Set and Northrop Juniors are pilot groups and will be duplicated at all facilities in the coming months.

Mr. Boyle also reported the high interest evinced by Floridians in all Northrop Recreation Club activities. He cited the Radio Club as an example — the members operate no less than 19 FCC-licensed radio stations.

Another highlight of his visit was a special meeting of the MTF NRC Council.

Sports Carsmen Roll To Solvang Saturday

This Saturday will go down in history not just as Valentine's day 1959 but as the day of the *Nojagtig Tur tel Solvang*. (For the few who don't dig Danish, that means "Precision Tour to Solvang.")

The NRC Sports Car Club's February event will receive its sendoff in the Huddle's backyard, Crenshaw and Imperial, at 7:30 a.m. And provided rallyeists follow instructions, they'll wind up in the vicinity of Solvang.

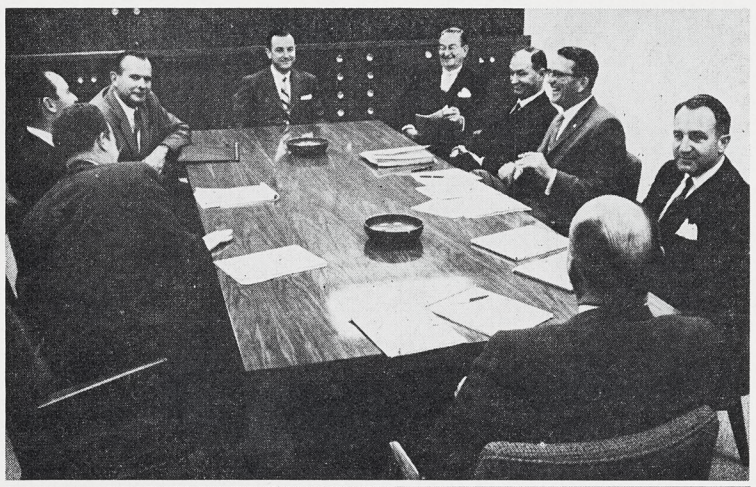
The Danish community of Solvang abounds in atmosphere, choice eating and picnic areas, and gift shops.

Entry fee is $1.50 per car.

Northrop-Norair News

Issued biweekly by Northrop-Norair Division of Northrop Corporation • Wednesday, February 25, 1959

CORPORATE SANCTUM—Executive Policy Council meets in Corporate conference room, Beverly Hills. Steel doors guard discussions of the highest proprietary nature. Ready for conference and visible from left are Robert R. Miller, senior vice-president Irving Roth, vice-president, Finance, and George Gore, Corporate secretary and Northrop-Norair general counsel. Meeting will be called to order by Mr. Miller. Gwynn Robinson, manager, Northrop International Customer Relations and alternate for Gil Nettleton, vice-president and general manager, visible at right.



REPORTING IN — Policy Council serves each week to bring all Division heads to Corporate headquarters for policy decisions. Clockwise around the table—Mr. Roth, Mr. Robinson, Kip Tuttle, vice-president and general manager, Radioplane; Thomas V. Jones, senior vice-president, Mr. Collins, Dr. Wm. F. Ballhaus, vice-president and general manager, Nortronics; Dick Nolan, vice-president and general manager, Northrop-Norair; Mr. Gore, and Mr. Miller, chairman.

IN SESSION — Mr. Collins reviews Corporate objectives on high-level plans in which Divisional responsibilities are to be defined. Dr. Ballhaus, foreground, and Mr. Jones listen intently. Meetings, after initial pleasantries, get down to the serious business of coordination and policy work.

MANY FACETS—Corporate policy moves are carefully examined by the Council. Mr. Roth analyzes the Corporate financial view which as a policy is always a factor in determining all other policies. Council always hews to our traditional attitude toward our principal customers, our government and the governments of the free world—"security with solvency". From left are Mr. Roth, Mr. Robinson, Mr. Tuttle, Mr. Jones, and Mr. Collins.

Corporate Team for Progress

Northrop Corporation is among the 150 largest publicly owned companies in the United States. From small beginnings two decades ago, it has grown both in size and in stature until in recent years it has taken its place among America's industrial giants—soundly managed, known to apply practical balance to its bold concepts, and considered a bulwark in vital defense effort.

With the growth that has extended arteries from the Company's Southern California heartland to eastern portions and beyond, to many free world nations overseas, have come the problems of the bigness. Each Division segment of the Company — Northrop-Norair, Radioplane, Nortronics and International—has its own vigorous line management. But the central Corporate entity is the crucible in which the total Corporate endeavor is melded into a cohesive whole.

Creative fountainhead of Northrop's modern management effort extends from the Executive Policy Council, which meets at Beverly Hills. The Executive Policy Council, because of the men who form it rather than by written law, is second in influence and authority only to the Company's Board of Directors elected by the shareholders.

Weekly meetings of the Executive Policy Council are intended to bring the best talent of the Corporation to bear on current issues and future courses. When the Council members have contributed their knowledge to an issue or problem, the decision is made and the course is charted by President Whitley C. Collins, who heads the Council with his deputies, Senior Vice-Presidents Robert R. Miller and Thomas V. Jones. Total responsibility for the results is taken at the Corporate level.

Broadly thus, the work of the Executive Policy Council is to debate and establish the need for action, at headquarters and in line Divisions.

Division General Manager Dick Nolan sits on the Executive Policy Council not as a representative of Northrop-Norair but as a member of the Corporation's executive body, whose advice is followed in matters of total Company concern.

Thus, the Executive Policy Council makes us a family teamed for success.

Page Communications to Join Northrop Company

As announced by President Whitley C. Collins to the nation's press last week, Northrop Corporation intends to expand into the new field of advanced systems for long-range communications.

The Company has negotiated the acquisition of Page Communications Engineers, Inc., and has now filed application for approval with the California Commissioner of Corporations.

Page head office is located in Washington, D.C.

Page is currently engineering national and international communications systems on four continents and has completed the world's first intercontinental network employing the new scatter-propagation techniques in which radio signals are reflected from the stratosphere and ionosphere

(See PCE, Page 2)

Yearly Dividend For 1958 Voted By Credit Union

The newly elected directors of the Northrop Credit Union have just announced that a five and one-half per cent dividend has been declared for the calendar year 1958 and will be entered on members' ledgers in March.

(See CU DIVIDEND, Page 2)

NEWS BRIEFS

TOWARD SPACE—George Douglas, vice-president, Engineering, announces that Weapon Systems Development, Welko Gasich, director, has realigned organization and assignments to emphasize specific product approach and to further implement technological developments. The original Preliminary Design group has been divided into two groups—Aircraft

(See NEWS BRIEFS, Page 2)

EXECUTIVE POLICY COUNCIL—From left, seated: George Gore, Corporate secretary and Northrop-Norair general counsel; Thomas V. Jones, senior vice-president; Whitley C. Collins, president; Robert R. Miller, senior vice-president. Standing, from left: Richard R. Nolan, Northrop-Norair vice-president and general manager; Gwynn Robinson, manager, Northrop International Customer Relations, alternate to Gil Nettleton, vice-president and general manager of that Division; Irving Roth, vice-president, Finance; Kip Tuttle, vice-president and general manager, Radioplane, and Dr. Wm. Ballhaus, vice-president general manager, Nortronics. Meetings are held each week.

NEWS BRIEFS

(Continued from Page 1)

Advance Design and Missile Advanced Design. A new group, Astrosystems and Research, has been added. Stated Mr. Douglas, "This gives Northrop-Norair a triple-threat Weapon Systems Development organization. Better specialization will result. Structure follows that of ARDC and Ordnance and will form better channels with those agencies. Better customer coordination will result."

MDAS—A complete modernization and reorganization of Northrop-Norair security system of controlling classified documents will take place 2 March, 1959, it has been announced by Vice-president and General Manager Dick Nolan. "Safeguarding of military information is an obligation and a trust that rests equally on all our shoulders," stated Mr. Nolan. "It is also a contractual agreement and backed up by law. . . . The new system as approved by the Air Force will centralize control, ease the burden for many, simplify accountability, and save dollars for the taxpayer and for the Company." . . . Features of the new plan as outlined by Paul Crews, director, Security and Protection Services, are (1) MDAS, Master Document Accountability Station in each facility to maintain records on receipt and transmitttal of all classified information. (2) ADAC—Area Document Accountability Centers to be manned and operated by organizations using classified information, and (3) document custodians to be assigned for facilities and/or areas. . . . Log books, long familiar to "need to know" Norcrafters, will be recalled and replaced by a modern system of control and accounting utilizing multicopy forms.

THE T-38 TALON REPORT—The T-38 Talon prototype first flight has been rescheduled for additional power plant testing, it has been announced by Engineering Vice-president George Douglas. A considerable amount of engine running time has already been accomplished, but Norair and General Electric engineers agree that additional refinements are required before the propulsion system is ready for take off . . . Valuable system testing on the T-38 project continues, using ground test engines as power sources . . . Production versions on the T-38 airplanes and engines are proceeding on schedule.

WSM—Weapon Systems management proposal for an Air Force air-to-surface missile is now in preparation, it has been announced by Vice-president and General Manager Dick Nolan. "The success of this weapon systems project is of the utmost importance to the defense of our nation," stated Mr. Nolan. "For the successful prime contractor and associates, the project will be more than the business of a contract and delivery of product. It will be a challenge of management ability that must bring out the very best of America's great productive genius . . . Our own approach to the proposal recognizes this fact. We are associated with AVCO, Aerojet General, International Telephone, and Nortronics. This team succeeds in aligning and integrating the highest levels of national capability and engineering, technological and manufacturing resources into a Weapon System team for implementing this project. A bidder's conference has already taken place at Dayton. Last week Norair and team associates got together here for the first senior management team conference."

NORTHROP RECREATION CLUB
proudly presents

THE GUEST APPEARANCE OF THE
RADIOPLANE RECREATION CLUB PLAYERS
IN A THREE-ACT COMEDY

ADMISSION $1.25 TAX INCL.

"OUT OF THE FRYING PAN"

BY FRANCIS SWANN

LEUZINGER HIGH SCHOOL AUDITORIUM

FOR BENEFIT OF THE CHARLES LEROY LOWMAN SCHOOL FOR HANDICAPPED CHILDREN

NO SEATS RESERVED

SATURDAY EVENING, MARCH 7, 1959
ONE NIGHT ONLY

CURTAIN AT 8:30 P.M.

PCE—

(Continued from Page 1)

for clear, long-distance transmission. It has carried out system feasibility studies, siting surveys, system planning and programming, procurement and installation of all electronic equipment and the construction of supporting facilities such as access roads, buildings, power lines and power plants.

Northrop will acquire 100 per cent of the stock of Page and the company will be operated as a wholly-owned subsidiary of Northrop, Mr. Collins said. He emphasized that no changes are contemplated in the executive and technical personnel of Page and that the company will continue its operation as before.

CU Dividend

(Continued from Page 1)

Members of the board of directors for 1959 are J. L. Dew, president; C. H. Davis, vice-president; W. T. Gage, secretary-treasurer; K. I. Thurston; H. R. Watson; J. R. Willson; and F. M. Ziegler.

Credit Union supervisory committee members are D. R. Anderson, chairman; G. R. Duket; and W. W. Harter.

Credit committee includes S. C. McKenzie, chairman; L. M. Rondot; and V. G. Vanderville. Alternate credit committee members are R. A. Bradford, J. M. Duffy, Wood Jones, S. W. Josephson, R. W. Miller, L. W. Monger, J. M. Mountain, F. L. Muhl, R. H. Rupkey and F. E. Wolfe.

Officers appointed by the board are Mary Delaney, assistant secretary-treasurer; Mary Bennett, assistant treasurer; and Betty Rodesch, cashier.

Walt Gage, Credit Union treasurer, pointed out that, as of the first of the year, savings on deposit totaled $1,211,752.58, as against $1,056,957.36 a year ago.

brain / drain

In the following issue, the News *will print the first solution received by mail.*

A king, wishing to select a prime minister from three ministers who appear equally able, brings them together and blindfolds them. He tells them that he has a piece of red chalk and one of black and then marks an X on the forehead of each of the men—using only the red chalk.

Before he unblindfolds them, he tells them that as soon as a man sees a red X he is to stand up . . . and that the prime ministership goes to the first man who is able to tell what color X he has on his *own* forehead.

As soon as the blindfolds are removed, each of the three, of course, stands up. After a minute, one of the men says to the king, "The X on my forehead is red." How was he able to determine this?

Ralph Allen, 5161, was first with the solution to last issue's brain/drain. "The wheels are tapered outward from the flange. As the car rounds a curve, the wheels slide across the track, changing the wheel diameter at point of contact so that the inside wheel is 'smaller' than the outside one." Runnerups were L. L. LeBrun, jr., 3569, and Jim Billups, 2980.

IN HONOR OF MAYOR BRANDT—Los Angeles area civic and industrial officials honored visiting mayor of West Berlin Willy Brandt with luncheon at the California Club. President Collins attended and is shown second from left with other distinguished notables—Robert E. Gross, board chairman of Lockheed; Mayor Brandt; James Francis Cardinal McIntyre; and Franklin S. Payne, publisher of the Los Angeles Examiner. In speaking of the threatened Soviet blockade, Mayor Brandt stated: "We have a stockpile of reserves for at least six months. Our people have made up their minds. There is no panic."

A VITAL NEED—"Out of the Frying Pan" by the Radioplane Players will support the Charles Leroy Lowman school for retarded children. In photo, school principal William Hirsch introduces John B. Clark, Northrop-Norair director of Industrial Relations, to two high-hope youngsters. Without the facilities of the Lowman school, education for such unfortunates would be practically impossible. School cares for young folk afflicted with cerebral palsy, polio, seizures and other crippling diseases. Special equipment needed for training depends on public support.

"Out of the Frying Pan" Comedy To be Staged at Leuzinger High

Out of the Frying Pan—! by the Radioplane Players.

In support of a vital charity, and providing first-class entertainment and an opportunity for Norcrafters and Nortronics folk to extend a congratulating hand to Radioplane, *Out of the Frying Pan*, a sparkling comedy will be presented at Leuzinger High School, Saturday, March 7, it has been announced by Charles Boyle, chief, Personnel Activities.

All Norcrafters are invited.

The play was presented to an enthusiastic audience at Radioplane last week. The smooth professional performance of the Radioplane Players cast created an instant hit.

Proceeds from the play will be in support of the Dr. Charles Leroy Lowman school for retarded children in Van Nuys. Tickets at $1.25 each are on sale at all Personnel Activities offices in all plants.

Presentation of *Out of the Frying Pan* constitutes the second time Northrop-Norair and Radioplane people have joined hands in a recreational activity. Last summer, Norcrafters staged the "Funstival" at Disneyland, and invited Radioplane to participate. Their friendly response helped make "Funstival" the outstanding success of the season.

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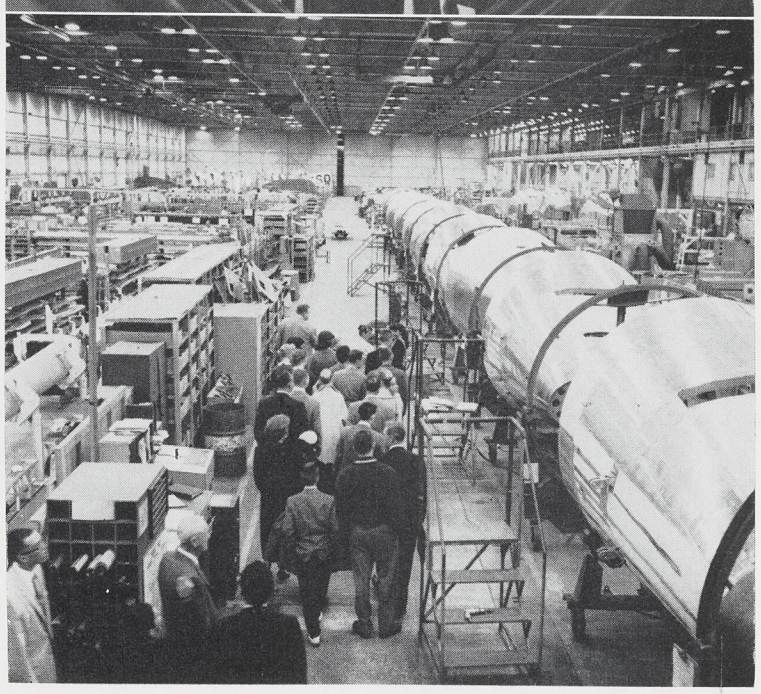
SUNDAY...

...FUNDAY

FLORIDIAN FRISKING—"Sunday Funday" corralled the youngsters of Missile Test Facility Norcrafters for "branding" as Northrop Juniors. (See Northrop News, February 11.) Kickoff meeting of this NRC pilot group was presided over by Jack Cushman, Industrial Relations, and Woody Thomas, NRC vice-president. Featured were hula-hooping and glee-provoking games such as the "Sunshine State shuffle" pictured at right. Sporting their brand-new Northrop Junior T-shirts, the kids were persuaded to sit still for the group picture although rifle-wielder in upper left corner seems to object.

NORTH WIND DOTH—Northrop-Norair Presque Isle AFB field office sports icicles from eaves pointing up (down) contrast between there and here. Ernie Felis, Flight Safety engineer, fresh from Hawthorne and with oversized overcoat, greets Maine "old-timer" Walt Watker, Snark tech rep at the base. Field office is check-out facility for incoming Snark squadron equipment.

TEEN TYCOONS—In annual hosting of Centinela Valley area Junior Achievement groups, the teenage "lieutenants of industry" were guests for tour of the Snark production line, Countdown Building, Boeing line and T-38 production area, and for dinner in the executive dining room. The dinner was presided over by Vice-president and General Manager Dick Nolan, Corporation Secretary and Northrop-Norair General Counsel George Gore. Mr. Nolan was principal speaker and pointed out parallels between Northrop-Norair and two teenage firms represented — Hi-Low Company, South Bay Productions.



CASABA HOEDOWN—Apparently awaiting their turn to do-se-do are these NRC basketballers in a recent league game. From left: Chuck Haberman, Tom Lusk, Larry Mattson, Don Tolliver, Bill Binckley, Bill Wood and Don Kies. Highlight of the contest was the 29 points scored by Don Kies of the Boy Wonders—peak for the season. Boy Wonders massacred Mutineers 72 to 22. See Page 4 for league final standings.

BBSF Classified Ads

Items advertised in "For Sale" and "For Sale or Trade" categories are limited to a maximum of $50. Price must be stated.

Ads for agencies, commercial enterprises and private businesses are not accepted.

Deadline is noon Monday, nine days before publication.

FOR SALE

TIRE CHAINS, V-bar-type, 7.10x15, $15. PA 1-8492. A

INTAKE MANIFOLD, 6-carburetor log-type, fits 1949-56 Olds, $45. AX 1-5177.

TAPE RECORDER, portable, 1-speed, 1 yr old, $35. FR 4-6945. A

STAINLESS STEELWARE, 2 sets; 24-pc, $2; 16-pc, $2.50. GR 7-1539. A

REFRIGERATOR, Norge, $50. DA 4-3217.

DOG, Irish setter, thorobred, 8 mo old, $35. PL 4-8313. A

TV SET, Hoffman 17" console, mahogany, w/doors, $42.50. FR 6-3981. A

BEDS, 3 double-size, box springs, innerspring mattresses, $15 ea. OS 9-2880. A

BOWLING BALL, 15-lb, $10. OR 1-0862.

ROCKER, platform-type, $30. FR 5-9648.

AMPLIFIER, UA-1 Heath Universal 12-watt, $23.50. OR 4-0762. A

BABY FURNITURE, Babyline; crib w/mattress, pad & bumper guard; hi chair, folds into playtable; play pen, folding-type, w/insulated pad; $35. FR 5-6017.

TYPEWRITER, Underwood portable, w/case, $35. GE 4-2717. A

REFRIGERATOR, Coldspot 8 cu ft, $50. DA 4-6748. A

TV SET, 16" console, Doug Russell of Hollywood custom design, mahogany, w/doors, second complete chassis w/picture tube, $50. OS 6-6169. A

DRAFTING MACHINE, left-handed, $50. AX 3-3421. A

BRIDESMAID'S DRESS, size 12, peach faille, w/hat & mitts, $10. FR 8-1784. A

BABY EQUIPMENT, hi chair, blonde, $7; stroller, folding-type, $2.50. PL 2-9597.

CAMERA, Argus C3, 2 yr old, w/lite meter & case, $30. OS 9-2639. A

RECORD CHANGER, Webcor Jubilee 3-speed automatic, $25. OS 5-0933. A

CHEST, 4-drawer, w/matching round-mirror vanity, $40. OS 6-4654. A

BABY EQUIPMENT, buggy, Storkline, w/pad, cost $80, $25; stroller, $4; car seat, $2; combination hi chair-youth chair, $6; bathtub chair, $1; training seat, $2. FR 5-8847. A

HEADBOARDS, pr, twin-size bookcase-type, solid natural ash, $35. DA 6-4776.

RUG, 9'x12', w/foam rubber pad, $18. OR 2-7679. A

PIANO, upright. $50. DA 4-1631. A

HOUSEHOLD EQUIPMENT. heater, 20,000-BTU, gas, vented, $15; wardrobe, unpainted, w/sliding doors, $20; bed, ¾-size rollaway-type, $5; doors, inside-type, w/hardware, $2 ea. OS 6-9352. A

BABY EQUIPMENT, bathinet, travel bed, sterilizer, diaper bag. $9. OR 0-0539. A

WANTED TO BUY

BOAT TARP, 16'x24', liteweight, max. $15. OS 9-1698. B

DESK, 30"x60" or smaller, w/file drawer. PL 4-9637. B

MAGAZINE TRAYS, for Revere automatic slide projector, prefer w/case. FR 5-7810.

VOLKSWAGEN. FR 6-5256. B

RADIO, prefer 4-band short-wave-type. OR 1-4271. B

FOR TRADE

DIAMOND RING, man's, approx. 1/3-carat, trade for rifle or pistols. FR 4-4140. C

RANGE, O'Keefe & Merritt deluxe, trade for freezer. FR 6-0674. C

CAMERA, 1958 Argus C3, w/flash attachment & leather case, trade for preamplifier or turntable. OS 5-7363 between 5 & 6:30 p.m. C

CHILD CARE OFFERED

CHILD CARE, hot meal, 18-mo-old children & older, licensed, near Northrop. OS 5-7088. G

PERSONALS

THANKS and appreciation to my many friends for their gifts and thoughtfulness during my recent illness. PEGGY WELLS.

MAGAZINES WANTED, Good Housekeeping, Sunset, Better Homes & Gardens, McCall's, Journal. OS 9-4247. L

THANKS to everyone who remembered me w/flowers, plants & messages during my illness. FRANCES AINSWORTH. L

LOST

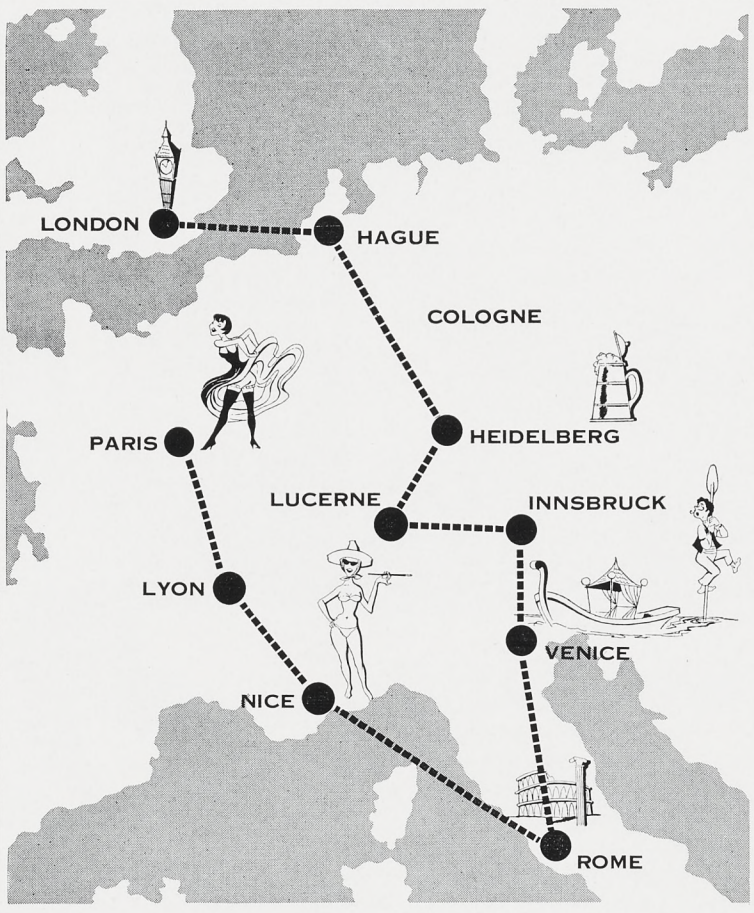
SLIDE RULE, K & E 10", black case, east end of Plant 1, Feb. 17, 4 p.m. Box 1002.

FOR SALE OR TRADE

BICYCLE, boy's racing-type, $22 or trade for girl's 26" bicycle. ME 3-2990. M

SHOTGUN SHELLS, box, 10-gage, $3 or trade for .22 long rifle shells or 12-, 16-, 20- or 410-gage shells. Box 1001. M

JUKE BOX, $25 or trade for 2-wheel trailer. DA 3-0113. M



OLD WORLD ITINERARY—NRC Travel Clubbers are slated to embark on April 17 for a 23-day tour touching nine countries. After a Gotham City stopover, the travelers will TWA to London and follow the route shown on the map. Champagne-flight tour at piggybank price is open to all Norcrafters. Deadline for reservations is Monday, March 2.

Norcrafters Due for "Hanging" in NRC Purchase Prize Art Show

Whetting the pallettes of all Norcrafter artists—amateurs and pros alike—is the announcement of the 12th Annual NRC Purchase Prize Art Show, scheduled for "hanging" on March 30.

The double classification inaugurated last year will be continued in this show. Amateur Class A includes artists whose works have never been sold. Class B is for professionals and semi-professionals who have sold paintings. This latter category also covers former NRC Art Show winners and Norcrafters with the classifications of commercial artist, industrial artist or technical illustrator.

Prizes in Class A are $100 for first place and $75 for runnerup. Top painting in Class B garners $150 and second, $100. The first prize in each class includes sale of the painting to the NRC. There will be honorable mention awards in both classifications. Judging will be done by a board of professional artists, prominent in California art circles.

An additional honor for show entrants is sweepstakes winner, chosen on the basis of Norcrafter ballots.

Entry details are outlined in the official rules and regulations, which may be obtained at all Personnel Activities offices. Deadline for submitting pictures is March 27.

Paintings will be galleried in the Plant Three cafeteria March 30 through April 9 and in the Plant One cafeteria April 13 through April 24. Sweepstakes votes will be cast at Plant One April 22 and at Plant Three April 28.

Mixed Chorus In 250-voice LA Chorale

Two hundred fifty-voice harmony will be spotlighted at the Fifth Annual Business and Industry Choral Festival slated for this Saturday, February 28, 8 p.m., at the East Los Angeles Junior College auditorium.

The NRC Mixed Chorus and nine other industrial choral groups will each present a seven-minute program in this free-to-the-public festival sponsored by the Los Angeles Bureau of Music, Department of Municipal Art.

Participating in the program will be the 45-piece Los Angeles Civic Concert orchestra, directed by Arthur J. Babich.

No tickets are required. There are more than 2000 seats available, plus ample parking. The auditorium is located at 5357 East Brooklyn Avenue, near Atlantic Boulevard.

NRC Hoopsters Ring Up End-of-season Tallies

NRC cage final standings have just been toted up for the record book.

In the Monday league, the Scotch Plaids, managed by Tom Stinson, walked off with the crown and a hefty 8-to-1 tally.

League high-scorers were Doug Barnes, averaging 18.2 points per game for the Zephyrs, and the Scotch Plaids' Greg Halberg, with 15.1.

Barnes was chosen Most Valuable Player by league ballot.

Thursday loop champs were the Fluid Dynamics quintet, posting an unsullied 9-to-0 record. Manager is Marty Kenehan.

Don Kies sank the casaba consistently for an average of 13.9 points per game. John Patierno of the Fluid Dynamics five split the net with a 13.7 average.

Thursday league Most Valuable Player was Patierno.

Topping both leagues in the art of sinking the gratis toss was Fluid Dynamics' Dick Wolpert, posting an uncanny 78.2 per cent.

And hands-down choice for the sportsmanship award were the Mutineers, managed by Don Tolliver.

NRC Good Time Table for March

For enrollment or information on activities listed below, call or contact Personnel Activities, Plant One, extension 2784. All clubs meet at the NRC Clubhouse unless otherwise noted.

ARCHERY (days), Wes Williams
Meet Wednesdays, 7:30 p.m.—movies 1st Wednesdays. Archery classes now in session.

ARCHERY (nights), Ray Mechling
Meet Weanesdays, 12:15 p.m.

ART CLUB (days), Forrest Ayrest
Meet in Annex Thursdays, 7 p.m. Models furnished by NRC.

ASTRONOMY (days), Jim Stowe
Meet 2nd & 4th Mondays, 7:30 p.m.

BASKETBALL, George Forbes, jr.
Double Elimination Tourney March 7, 14 & 21 at Leuzinger Hi, 10 a.m.-4 p.m.

BIBLE STUDY, Roy Stahl
Plant I—Daily, 11:30-12:15, Tool Design Bldg; 11-11:45, 5566 Conf. Room. Plant II—Mondays & Thursdays, 12-12:45, Conf. Room 2.
Eng. Center—Daily, 12-12:45, Reliability Conf. Room.

BOAT CLUB, Ken Payne
Meet 1st Wednesdays, 7:30 p.m. Water Ski Club (days) meets 3rd Thursdays, 7:30 p.m.

BOWLING (days), Dave Carney

BOWLING (nights), Charlie George
Winter leagues now rolling. Spring Doubles Tourney in April. Summer leagues forming.

BOY SCOUTS
Sea Scouts, Intermediates, Cub Scouts. All Norcrafter boys welcome.

CAMERA CLUB (days), Fred Armstrong
Meet 1st, 3rd & last Wednesdays, 7:30 p.m.

CAMERA CLUB (nights), John Newman
Meet 1st and 3rd Saturdays.

CAMPING CLUB, Fred Brant
Meet 1st Mondays.

CHESS CLUB, Bill Henderson
Facility-wide tournament in progress.

GEM & MINERAL CLUB (days), Ray Cole
Meet 2nd Wednesdays, 8 p.m. Mineralogy classes Thursdays, 7-9 p.m.

GOLF (days), Ted Deguisne

GOLF (nights), Russ Munsen
Hesperia March 15 & 22. Ojai Valley April 26.

GUN CLUB (days), Robert Raines
Meet 3rd Wednesdays, 7:30 p.m.

MIXED CHORUS, Burt Bracher
Meet Tuesdays, 7:30 p.m.

MODEL RAILROAD, Jack Wilson
Meet in Annex Thursdays, 7-10 p.m. Visitors welcome. Need electricians, carpenters & scenic artists to help with new layout.

ORGAN CLUB, Gail Skinner

PHILATELIC CLUB, Eugene Richardson
Meet 2nd & 4th Mondays, 7 p.m.

RADIO CLUB (days), Andy Dolak
Meet last Thursdays, 7:30 p.m. Radio code class meets Wednesdays, 7:30 p.m. NRC's station is W6VPZ.

RADIO CLUB (nights), Merwin McGrew
Meet last Thursdays, 1:30 p.m.

SKEET CLUB, Dan Kawashima
Meet alternate Saturdays, March 7 & 21, at Rancho Angellis Range, Main & Broadway, 10 a.m.

SKI CLUB, Chuck Morse
Meet 2nd & 4th Wednesdays, 7:30 p.m. Annual races at Snow Valley March 1. Mammoth trip March 14-15.

SKINDIVING (days), Ralph Gonzales
Meet 3rd Wednesdays, 7:30 p.m.

SKINDIVING (nights), Lillian Kemble
Meet 3rd Wednesdays, 1 p.m.

SPORTS CAR CLUB, Jack Kirkpatrick
Meet 2nd Thursdays, 7:30 p.m.

SQUARE DANCING, George Sanborn
Beginners' class at Bret Harte Jr. Hi Fridays, 8-11 p.m.

SURF FISHING, John Pawlicki
Meet 1st Tuesdays, 7:30 p.m.

TABLE TENNIS, Robert Burke

TENNIS, Ed Hummel
Meet 1st Mondays, 7:30 p.m. Practice & instruction at El Camino Jr. College Saturdays, 10 a.m.

TOASTMASTERS 212 (days), John Walker
Meet at Western Avenue Country Club Thursdays, 6:30 p.m.

TOASTMASTERS 1398 (nights), Jay Rayner
Meet at Western Avenue Country Club Thursdays, 12:15 p.m.

TOASTMASTERS 2583 (days), Howard Cornelius
Meet at Del Mar Lanes Mondays, 6:15 p.m.

TRAVEL CLUB, Howard Cornelius
Meet 4th Mondays, 7:30 p.m.

FOR THE LADIES

BOWLING (days), Corinne Davis

BOWLING (nights), Mary Mimnaugh
Winter leagues now rolling. Spring Doubles Tourney in April. Summer leagues forming.

GIRL SCOUTS, Dallas Vasquez
Mariners, Intermediates, Brownies. All Norcrafter girls welcome.

TOASTMISTRESS, Marge Gates
Meet in NRC Clubhouse Board Room 1st & 3rd Thursdays, 7 p.m.

RIDES WANTED

7:00 a.m. — 3:45 p.m.

AVALON & VICTORIA, Gardena. Patricia Cleave, DA 4-4625. 2

CENTURY & CRENSHAW, Inglewood. B. McDonnell, PL 6-9619. 2

CRENSHAW & 109th ST., Inglewood. Dorothy Lethem, ext. 1508. 2

CANDLEWOOD & DOWNEY, Lakewood. Carolyn Kuehn, ME 3-8921. 2

7:30 a.m. — 4:15 p.m.

IMPERIAL & PARAMOUNT, Downey. Elsie Bryant, TO 2-5994. 3

CRENSHAW & 178th ST., Torrance. Helen Grutsis, DA 9-4804. 3

EL MANOR & 77th ST., Los Angeles. F. C. Bain, OR 4-6816. 3

LINCOLN & HWY 39, Anaheim. W. A. Day, JA 7-4270. 3

EUCLID & ORANGETHORPE, Fullerton. W. R. Keen, LA 5-2254. 3

ARTESIA & CRENSHAW, Torrance. M. C. Eckard, DA 9-8447. 3

WESTERN & TRUDIE, San Pedro. Betty Davis, TE 1-1145. 3

8:00 a.m. — 4:45 p.m.

SHERMAN WAY & WHITSETT, North Hollywood. I. J. Haber, PO 5-1203. 5

CRENSHAW & 171st ST., Torrance. Dee Hughes, DA 3-3846. 5

HILL & WALNUT, Pasadena. E. L. Jucevic, SY 6-4696. 5

MORSE & WESTERN, San Pedro. C. M. Coderre, TE 1-1090. 5

INGLEWOOD AVE. & 134th ST., Hawthorne. P. F. Christopher, OS 5-2565. 5

HAWTHORNE BLVD. & SILVER SPUR, Rolling Hills. Meyer Bar, FR 7-3114. 5

SANTA MONICA BLVD. & WESTERN, Hollywood. Harold Greer, HO 4-6094. 5

BROOKHURST & LINCOLN, Garden Grove. A. Ryan, JE 7-2555. 5

4:45 p.m. — 1:15 a.m.

BUDLONG & NORMANDIE, Los Angeles. Evangeline Martinez, PL 7-4679. 8

IMPERIAL & VERMONT, Los Angeles. Earl Utzman, ext. 403. 8

Miscellaneous — Split Shift

HERMOSA AVE. & 4th ST., Hermosa Beach. (Hours: 4:15 p.m.—12:45 a.m.) Jill Skeen, FR 2-6983. 10

SANTA BARBARA & WESTERN, Los Angeles. (Hours: 4 p.m.—12:30 p.m.) Ina Merrill, AX 4-6390. 10

ARLINGTON & SEPULVEDA, Torrance. (Hours: 4:30 p.m.—1 a.m.) Ann Simonsen, DA 6-2072. 10

LINCOLN & MONTANA, Santa Monica. (Hours: 7:15 a.m. — 4 p.m.) Frances O'Daniel, EX 3-8641. 10

RIDES OFFERED

7:00 a.m. — 3:45 p.m.

ESCHELMAN & 240th ST., Lomita. J. K. Aubry, DA 6-4776. 12

LENNOX BLVD. & PRAIRIE, Lennox. Marcia Woodman, OR 2-6385. 12

CRENSHAW & PACIFIC COAST HWY, Torrance. Edith Darragh, DA 6-8992. 12

HARBOR & KATELLA, Garden Grove. R. H. Benton, JE 4-5553. 12

PALOS VERDES BLVD. & RUBY, Torrance. Mary Ann Cochrum, ext. 1782. 12

7:30 a.m. — 4:15 p.m.

CENTINELA & ROSE, Los Angeles. Joan Clark, EX 7-4213. 13

EL MANOR & 77th ST., Los Angeles. F. C. Bain, OR 4-6816. 13

LINCOLN & HWY 39, Anaheim. W. A. Day, JA 7-4270. 13

EUCLID & ORANGETHORPE, Fullerton. W. R. Keen, LA 5-2254. 13

8:00 a.m. — 4:45 p.m.

LINCOLN & MANCHESTER, Playa del Rey. I. Sherlock, EX 8-4032.

MORSE & WESTERN, San Pedro. C. M. Coderre, TE 1-1090. 15

INGLEWOOD AVE. & 134th ST., Hawthorne. P. F. Christopher, OS 5-2565. 15

HAWTHORNE BLVD. & SILVER SPUR, Rolling Hills. Meyer Bar, FR 7-3114. 15

SANTA MONICA BLVD. & WESTERN, Hollywood. Harold Greer, HO 4-6094. 15

BROOKHURST & LINCOLN, Garden Grove. A. Ryan, JE 7-2555. 15

4:45 p.m. — 1:15 a.m.

HARBOR & WESTMINSTER, Garden Grove. A. L. Burton, JE 1-2414. 18

T-38 Talon Supersonic Trainer

Northrop-Norair News

Issued biweekly by Norair Division of Northrop Corporation • Wednesday, March 11, 1959

NORAIR ENGINEERING HOSTS LUNAR EXPLORATION MEET

The Fifth Lunar Planetary Exploration Colloquiem has been set for next Wednesday, March 18, in the Product Display Building, it was announced by George Douglas, vice-president, Engineering. Northrop-Norair Engineering is host.

Five prominent scientists in the fields of astronomy and astronautics are scheduled to present papers.

Featured speaker is the internationally known Dr. Harold C. Urey, University of California, Institute of Technology and Engineering, La Jolla. Dr. Urey's topic is "The Escape of Planetary Atmospheres."

Warren H. Straley, Army Ballistics Missile Agency, Huntsville, Alabama, will deliver a paper entitled "Mars or Venus?" "Venusian Atmosphere" is the subject of a talk by S. M. Dole, Rand Corporation, Santa Monica.

Dr. Edward Goldberg, Scripps Institute of Oceanography, La Jolla, will discuss "X-ray Techniques in Probing the Lunar Surface." Concluding speaker is Dr. J. A. Edson, assistant to director of Research and Development, Department of the Army, Washington, D.C. His topic is "Thickness of Venusian Atmosphere by Russell's Method."

A highlight of the meet is the film "The Widest Horizons," by courtesy of North American Aviation.

It is expected that this program of high-caliber papers will attract attendance in excess of 150. National space age authorities from industry, universities and the Air Force are expected.

Collins Elected To Term on AOA Governing Body

President Whitley C. Collins is one of 24 leading U. S. industrial executives selected by the American Ordnance Association as members-at-large of the Association's governing council. Mr. Collins will serve a one-year term.

Selected from some 42,000 members, the council members-at-large are part of the main elective body of the Association and indirectly control and manage its nation-wide activities. Among these activities are the 80 technical divisions, 55 posts and chapters, and the four major publications of the Association, including its well-known journal, *Ordnance*.

J. B. Clark Appointed to Governor's Committee

Governor Edmund G. Brown has appointed Northrop-Norair Director of Industrial Relations, John B. Clark, to serve as a member of the 1959 Advisory Committee on Children and Youth.

In becoming a member of Governor Brown's committee, Mr. Clark joins a distinguished group of California leaders who will aid Governor Brown in planning for a White House conference on children and youth to be held in Washington, D.C. They will also advise the Governor in developing a dynamic State-wide program of dealing with the needs of young people.

(See CLARK, Page 2)

Corporation to Expand Field Office Service

Beverly Hills, Calif.—Expansion of existing field services in Washington and Colorado Springs has been announced by R. M. Ramey, Corporate vice-president, District Offices.

The extended program, General Ramey said, is to provide more Company representation in highly active customer areas and will, in addition, increase service capability throughout the United

(See EXPANSION, Page 2)

PETERSEN APPOINTED AS ASTRONAUTICS CHIEF

Norman V. Petersen, internationally known astronautical research scientist, has been appointed chief of the Astronautics group, according to George F. Douglas, Northrop-Norair vice-president, Engineering.

Mr. Petersen will direct Northrop-Norair work in two major areas — preliminary design of astronautical systems and research in the astronautical sciences. He reports to Welko E. Gasich, director, Weapon Systems Development Engineering.

N. V. PETERSEN

Before joining Northrop early this month he was a research scientist in the Discoverer satellite program at Lockheed Missile Systems Division, Palo Alto. He is widely recognized for his studies in the field of astronautical systems.

From 1956 to 1958 he was engaged in preliminary design work on missile propulsion and aerodynamics for Sperry Gyroscope Company in Sunnyvale. He was engaged in missile system preliminary design studies at Sperry Great Neck, New York, facilities from 1952 to 1956.

He was a phase leader in experimental and theoretical heat transfer studies of guns at the Midwest Research Institute, Kansas City, Mo., from 1950 to 1952.

Mr. Petersen was awarded B.S. and M.S. degrees in mechanical engineering by the State Univer-

(See PETERSON, Page 2)

NORTHROP–NORAIR NEWS BRIEFS

BOARD MEETING—Northrop Corporation Board of Directors met last week and approved a $4,000,000 expenditure for a new engineering, research and development, and pilot production facility for Nortronics Division . . . Esterly C. Page, president of Page Communications Engineers, Inc., was a special guest invited from Washington by President Collins. Mr. Page outlined activities of that company and later presented a film of the Page activities in foreign lands. (For Page negotiation details, see *Northrop-Norair News*, February 25.) . . . As reported previously to the public, the Board approved the usual quarterly Northrop Corporation dividend of 40¢ a share. Dividend will be payable 26 March to shareholders of record 10 March.

RELIABILITY—To place the strongest emphasis on military products second to none in the world in quality and reliability, the Company has established a Corporate Quality and Reliability Board, together with appropriate line functions consisting of Divisional Quality and Reliability Boards and Working Committees, it has been announced by Thomas V. Jones, Corporate senior vice-president . . . Accountability for quality and reliability standards is direct from the general managers to President Whitley C. Collins through the senior vice-presidents . . . "Continuance of quality and reliability of our products is vital and we can tolerate no compromise," stated Mr. Jones. In detailing the Board's objectives, Mr. Jones outlined six points of emphasis and control: (1) means for Corporate consideration and solution of quality and reliability problems; (2) consistency and uniformity of implementation; (3) adequate lateral communications between Divisions at executive and line management levels; (4) providing for Corporate and Division accountability; (5) channels for data feedback through accurate assessment and measurement of effort throughout the Corporation; and (6) single-point contact with the customer on quality and reliability matters on both Corporate and Division levels . . . The Corporate Board will be chairmanned by Mr. Jones with members consisting of Division managers. Divisional Quality and Reliability Boards will be chairmanned by general managers with membership consisting of department managers. Reliability Working Committees will be at the operating level with membership consisting of directors and chiefs of operating organizations and groups. An adjunct to the Corporate membership will be chairmen of Division Working Committees.

MANAGEMENT TRAINING PROGRAM—Colonel H. T. Morris, Northrop Corporation Air Force Plant representative, compliments highly the UCLA management training program . . . Major W. F. Stebens, jr., deputy Air Force Plant representative, and several members of the Northrop-Norair management team are now participating in the UCLA management training program for the second semester. Colonel Morris recently enrolled . . . "Such training as this can only result in increased proficiency for any management team," Colonel Morris stated. "UCLA program covers training and management policies, techniques, ac-

(See NEWS BRIEFS, Page 2)

The Air Force Office

NEW QUARTERS—The Air Force office, located on second floor of Plant One since Company founding, has recently moved to modern and newly furnished quarters off the first floor main hall. Colonel H. T. Morris, Northrop Corporation Air Force Plant representative, and Major W. F. Stebens, jr., deputy AFPR, preview the new AF Norair location.

IN CONFERENCE—Colonel H. T. Morris and his staff take time out from meeting discussion in Conference Room 50 for Norair News photograph. From left, clockwise around the table, are Division chiefs Mrs. Lucille R. King, Administrative Services, M. J. Stacy, Security, and W. E. Peterson, Transportation; Captain F. M. Shine, Engineering Support officer; Major R. J. Arnold, chief, Finance Division; Captain D. D. Salandra, SM-62 Project officer; Major C. A. Edmonds, T-38 Project officer; Colonel Morris; Major W. F. Stebens, jr.; Captain E. W. Pearson, assistant Air Force Plant representative; H. D. Townsend, chief, Production Division; J. P. Kennedy, assistant chief, Contract Division; and J .T. Boscon, chief of the Quality Control Division.

NEWS BRIEFS

(Continued from Page 1)

counting, contracts, organization, business financing, case studies and other related subjects. It is now a recognized course by the USAF Institute of Technology, Wright-Patterson Air Force Base." . . . A "live-in" three-day session was recently completed at the UCLA facility at Arrowhead Springs, a customary feature at the beginning of the semester in order that all participants may get to know each other socially before the work of the year commences. This factor is a remarkably successful communication device that increases class receptivity and clarifies training concepts, according to UCLA educators.

N-156F STATUS REPORT—Following recent announcement of government-Northrop Corporation contract negotiations on the N-156F, Vice-presidents Bob Lloyd, Manufacturing, and George Douglas, Engineering, report that first airplane is 90 per cent shop complete . . . Wings were joined to fuselage last week. Installation of hydraulics and electrical is 40 per cent complete . . . Shop completion is scheduled for latter part of May with flight date target in midsummer . . . Engineering first release drawing releases are 97 per cent complete . . . The N-156F production line parallels that of the T-38 Talon . . .

INTERDIVISIONAL MATERIEL COMMITTEE—Significant accomplishments are being achieved by the Interdivisional Materiel Committee, it is reported by Robert R. Miller, Corporate senior vice-president. "Purpose of this group," stated Mr. Miller, "is to increase efficiency and reduce Divisional costs through unified procedures. Following a Corporate procurement policy, the Committee has standardized purchase order terms, negotiated a series of supplier contracts on an over-all requirement basis and activated an interdivisional transport system." High on the committee's agenda are full implementation of a master approved vendor listing, integrated annual vendor certificates of compliance, and a joint value analysis training program . . . "Action taken to date has already produced substantial savings," Mr. Miller continued. "A vigorous program of 'common item' purchasing and centralized stocking is now under way, and is expected to result in greatly reduced acquisition and handling costs." The committee is chairmanned by Northrop-Norair Materiel Director Jack Hinchliffe . . . Other members are materiel directors from Radioplane and Nortronics.

NEW SECURITY SYSTEM — George Gore, Corporate secretary and Northrop-Norair general counsel, reports that the new security system based on MDAS, ADAC, and document custodians went into effect 2 March as scheduled. Log books are in the process of closing out with multicopy forms for control and accounting taking over. "The security change," stated Mr. Gore "was well planned and efficiently executed. The new system has been installed with a minimum of lost time. Norcrafters will be interested to know that the new system, where it has been in operation in other defense plants, has shown a remarkable record of no lost documents through several years of operation."

HONEYCOMB STAINLESS STEEL BRAZING—Contour panels, wedge panels, panels with solid inclusions, with attachments, different gauges of thickness, and many other complex structures are now being produced by Northrop-Norair's new stainless steel honeycomb brazing method, it has been revealed by Bob Lloyd, vice-president, Manufacturing . . . Many inquiries from industry, including Lockheed and Convair, have been received relative to the newly perfected process. The process is inert, uses no flux or other kindred agents. Component size, heretofore an industry stumbling block due to stresses and distortions, is not a limiting factor in Northrop-Norair's method.

LONG-RANGE FINANCE—Dan H. Hill, Northrop-Norair treasurer, advises that a long-range financial forecast has just been completed covering the period through fiscal 1964 with figures to be used as part of Corporation planning in the areas of facilities and equipment, and to target fiscal needs firmly for space age programs under way and upcoming.

SCIENTIST NOMINATIONS DUE

CALIFORNIA TO AWARD HIGH HONORS

The invitation to nominate two Californians for outstanding personal achievements in the fields of science and industry has once again been extended through the Second Annual Science and Industry Awards program.

"The California Scientist of the Year and the California Industrialist of the Year awards are California's equivalent to the Nobel Prize and call state-wide attention to the individual achievements and contributions of the two winners," said Dr. Norman H. Topping, USC president and general chairman of the program.

The dual-award program is being conducted by the California Museum of Science and Industry. A $5000 cash grant will be presented by the member-supported Museum Foundation to the state's foremost scientist and a medallion of honor to the leading industrialist.

Two juries will make the final selection from the nominations. Scientist of the Year jury will be headed by Nobel Prize winner Dr. Wendell Stanley, University of California, Berkeley. Dr. Neil H. Jacoby, dean of the Graduate School of Business Administration, UCLA, will chair Industrialist of the Year jurists.

The science award will be made for a contribution made in 1958 which extends the boundaries of human knowledge in the basic sciences, including physical and biological sciences and mathematics.

Nomination forms may be secured by calling Charlie Eyres, Engineering, extension 1839. Deadline for nominations is midnight, March 15.

M-C Ballots Candidates This Week

The Management Club voted this week for new officers for the 1959 term with ballot deadline March 10.

Nominations for officers took place at the February meeting.

For president: E. J. Noonan, Nortronics, presently Club treasurer; and H. D. Childers, Engineering, Club vice-president.

For vice-president: E. D. Kinsey, Finance, and secretary this year; and George Sterling, Field Service.

For secretary, Leo Richman, Administrative Services, and presently Club sergeant at arms; and Louise Hobson, Telephone and Telegraph.

For treasurer: Charlie Eyres, Engineering, and Finance chairman.

For sergeant at arms: E. C. Hummel, Engineering; and G. J. Arneson, Fire Service.

For night shift vice-president: D. J. Wright, Nortronics.

Olson Assigned To San Antonio District Office

Arvid Olson, assistant manager, Northrop-Norair Customer Relations, has been appointed manager of the newly established Northrop Corporate district office at San Antonio, Texas, it has been announced by R. M. Ramey, Corporate vice-president, District Offices. Mr. Olson will represent Corporation activities in the Southwest area.

A squadron leader of the original Flying Tigers, Mr. Olson served on active duty with the USAF in assignments as director of Plans and Requirements, Air Defense Command; chief, Air Force Section, MAAG, Indo-China; and wing base commander in ATC.

The San Antonio office is scheduled to be formally opened on April 1, 1959. Site of the office has not yet been announced.

C. R. Gates To Customer Relations

C. R. Gates, has been appointed assistant manager, Customer Relations, it has been announced by Dick Nolan, vice-president and general manager, Northrop-Norair.

Mr. Gates who is director, Product Planning, succeeds Arvid Olson who has been made manager of the new San Antonio office. (See story adjoining.)

C. R. GATES

Personnel and functions of Product Planning will also be transferred with Mr. Gates to his new office and, although located organizationally within Customer Relations, the section will be considered a Division-wide planning agency for general management.

Mr. Gates who is a native of Seminole, Oklahoma, holds an M.E. in aeronautical engineering from Massachusetts Institute of Technology. He has held design and research positions with USAF, Washington, D. C., with Convair, Fort Worth, and with the Cornell Aeronautical Laboratory.

He is the author of several articles on the aeronautical sciences published in the Air Force magazine.

ROY BALLING— TWO-YEAR TERM AS PRESIDENT

Roy Balling, Northrop-Norair insurance administrator, has just relinquished his gavel as president of the Southern California Chapter of the American Society of Insurance Management, Inc.

ROY BALLING

Mr. Balling owns the distinction of serving two terms as ASIM president due to the relocation of the 1958 president. He was elected for 1957-58 and reelected for the balance of the 1958-59 term.

Mr. Balling will continue to serve as director for the Southern California chapter of the ASIM — the third largest such chapter in the United States, outstripping all others in growth for the past year.

Mr. Balling is a 16-year Norcrafter.

DATA PLANNING IS SUBJECT OF OHLINGER TALK

Lee Ohlinger, chief, Computing and Datamation Center, was one of the main speakers at this month's 5th Annual Electronics Conference at New York City's Statler-Hilton Hotel.

Mr. Ohlinger's paper was entitled "Planning a Computing and Data Processing Center — Target: Progressive Growth Instead of Progressive Obsolescence."

LEE OHLINGER

His exposition explored a systematic method of planning an electronics center—a basic element of any design for advanced scientific management.

Mr. Ohlinger concluded with suggestions as to how forward-looking companies can plan their centers for progressive growth at all levels.

Peterson—

(Continued from Page 1)

sity of Iowa in 1949 and 1950.

He is a founding member, fellow and director-at-large of the American Astronautical Society tion's publication, *Astronautical Sciences Review.*

He is also a member of the Institute of Aeronautical Sciences, American Association for the Advancement of Science, American Rocket Society, and a fellow of the British Interplanetary Society.

He was principal delegate for the American Astronautical Society and delegate for the American Rocket Society at the International Astronautical Federation's Sixth Congress at Copenhagen in 1955, and American Astronautical Society chief delegate to the IAF Seventh Congress at Rome in 1956.

Expansion—

(Continued from Page 1)

States for all Corporation products.

The Washington District Office has been renamed the Eastern District Office and will continue to be headed by S. W. Towle, jr., Corporate assistant secretary and Washington representative since 1946.

The Colorado Springs office will be called the Western District Office and will be headed by D. W. Hamilton, presently Norair Dayton representative, and a Norcrafter since 1952.

(See story, this page, on establishment of the newest district office in San Antonio, Texas.)

Past Years in the News

FIFTEEN YEARS AGO—

Wednesday, March 1, 1944

Don "Big Red" Mullet (long-time Edwards Norcrafter) was sent to Washington, D. C., as Company representative to the War Production Drive National Exposition. Mullet won the WPD citation for individual production merit for his suggestion to facilitate rigging of airplanes.

* * *

"The Japs make very 'offensive' aircraft," stated Captain Richard Vodra, Pacific area fighter pilot and veteran of 222 combat missions, in an around-the-clock series of talks to plant personnel. Captain Vodra added, "The P-61 Black Widow is really a great airplane. It is the *coup de grace* for the Axis."

* * *

TEN YEARS AGO—

Wednesday, March 9, 1949

The Air Force revealed to the nation that the XF-89 was capable of speeds in the 600-mile-an-hour class and that the official Air Force name "Scorpion" had been assigned the airplane.

Clark—

(Continued from Page 1)

For the past several years, Mr. Clark has been a member of the Citizen's Advisory Committee to the Attorney General.

Northrop-Norair News

Vol. 17 No. 11

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PUBLIC RELATIONS

NORTHROP-NORAIR DIVISION

CHARLES BARR, Director

CHARLES BRADFORD, Editor

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Ground Support Equipment for the T-38 Talon

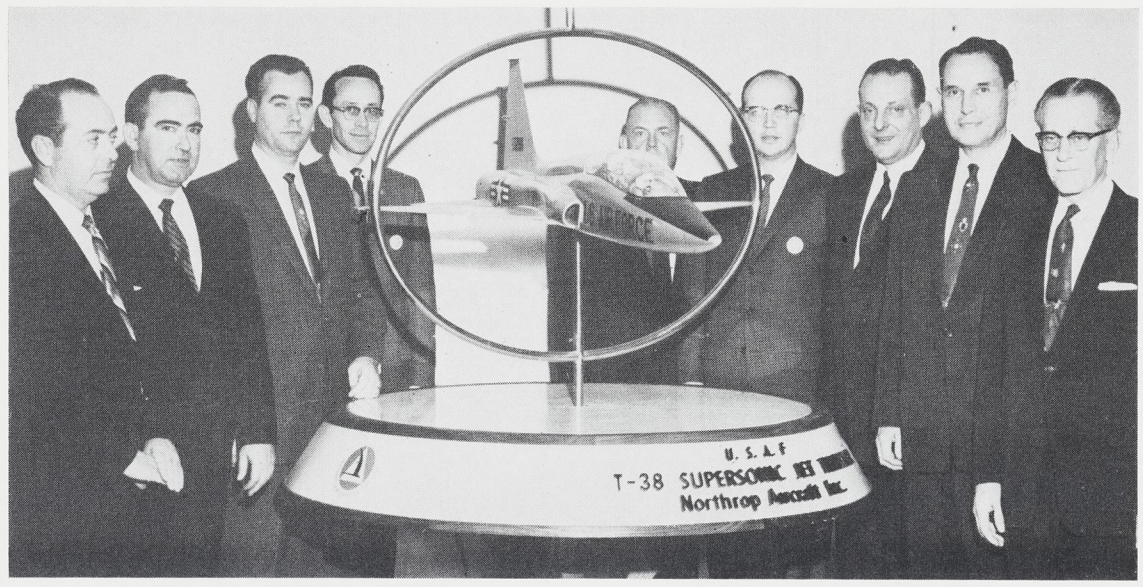
COMPLETE BUT COMPACT—Norcrafters D. D. Wilson and W. D. Martin demonstrate the efficient ground support program for the T-38: (1) basic handling trailer with aft fuselage adapter; (2) engine adapter; (3) tank and pump unit; (4) servo actuator holding fixture; (5) hoisting kit; (6) canopy spring compressor; (7) adapter cables for fuel quantity test set; (8) aileron rigging clamp; (9) engine starting unit; (10) engine maintenance trailer; (11) engine gear box adapter; (12) ground power unit; (13) tow bar and adapter. Not shown—wing adapter. Talon is shortly scheduled for move to Edwards Air Force Base, extensive flight tests.

Norair High Honor

THE GOOD DOCTOR—Doctor Roger Mackey, Medical director, Northrop-Norair, is presented certificate of appreciation for outstanding contributions to California's epilepsy program for 1958. Peter Adams, president of California Epilepsy Society, at right, presented the high honor.

News Pictorial

Tabulating Methods Group Visits



NORAIR HOSTS TMDA—A tour and briefing for 200 members of the Tabulating Methods Development Association was held last week at Northrop-Norair. Purpose of visit was to gather first-hand information on how Norair utilizes its advanced data processing facilities. On plant tour and viewing model of T-38 Talon, from left, are Al J. Grace, TMDA Educational chairman; TMDA members Morris Hyland, Ed Allee; Al Nichols, Norair chief of Data Processing; TMDA members Robert Robinson, Jack Campbell, R. C. Cooper; Dan H. Hill, Norair treasurer; and Frank Barnard, Norair controller. Forty-eight Los Angeles area business firms were represented at meet.

A World War Savings Bond Story

REMEMBER THE DAY—Al and Mrs. Johnson (he is assistant foreman, Test Lab electrical instrumentation) decided last week to cash their $100-plus War Bond. It was 15 years old—five years past the nominal time for redemption. Al called the News. Photo Lab files, News bound volumes, helped relive the story. Al won the bond by suggesting the name "First Nighter" for one of two Black Widows "bought" by Norcrafters during bond drive for national defense. Boyd Ashton also won bond for "Hades Lady". Photo at left shows Mrs. Johnson with confetti bottle about to perform the christening.

BBSF Classified Ads

Items advertised in "For Sale" and "For Sale or Trade" categories are limited to a maximum of $50. Price must be stated.

Ads for agencies, commercial enterprises and private businesses are not accepted.

Deadline is noon Monday, nine days before publication.

FOR SALE

RECORD CHANGER, Artone 4-speed, 1 mo old, holds 12 records, $35. FR 4-5852. A

BABY EQUIPMENT, nite lite, pink & blue elephant-shape; bottle holder, rubber beanbag-type; accessory jars, w/pink tray; $2.25. FR 9-9616. A

REFRIGERATOR, Coldspot 9 cu ft, $40. FR 4-1962. A

VENETIAN BLINDS, 2, w/cornice boxes & all hardware; 69"x56", $20; 33½"-x56", $5. DA 3-0719. A

WASHER, 1956 Easy Spindrier automatic, $35. FR 4-8036. A

SEWING MACHINE, White console-type, $40. DA 5-0133. A

BATHINET, aluminum, $5. PL 6-0015. A

RANGE, O'Keefe & Merritt automatic, $35. FR 5-0867. A

MUSIC CENTER, Zenith table model, radio & 4-speed record player w/diamond needle, $50. GA 2-8457. A

WASHER, Maytag automatic, $50. EX 8-4747. A

MANGLE, Thor Gladiron, rollaway folding-type, $35. FR 4-4456. A

ICE SKATES, man's size 11, $10. OS 5-9740. A

CAR HEATER, South Wind, dash control, $20. DU 4-4017. A

PHOTO ENLARGER, Federal 290, 2¼"-x3¼", $25. TE 4-8294. A

PUP, beagle, AKC registered. 8 wk old, $35. TE 3-9502. A

RANGE, Hotpoint electric, 3-burner w/deep-well cooker, automatic timers, reconditioned, $50. TE 3-4851. A

ELECTRIC SHAVER, Remington 60 Deluxe, $10. HO 4-7747. A

TIRES, 4, Goodrich 6.70x15 tubeless-type, white sidewalls, $14. DA 9-2893. A

BED, double-size, $15. OR 2-7355. A

BICYCLE, Schwinn Tiger middleweight racing-type, $25. FR 2-3860. A

WASHER, Kenmore automatic, $50. FR 8-5175. A

BASEBALL SPIKES, pr, man's size 9, $7. OS 6-3110. A

FURNITURE, bed, twin-size; chest of drawers; dressing table, w/ stool; $50. OS 6-8553. A

PLAY GYM, swing, glides, bar, rings, $10. DA 6-6667. A

BLANKET, GE automatic, double-size, $15. PL 6-1129. A

HEATER, Fan-Glo electric, $13. FR 6-2536.

VACUUM CLEANER, Revelation tank-type, w/attachments, $40. DA 3-3282. A

HEADBOARD, double-size bookcase-type, maple, $40. OR 2-3675. A

RADIO, RCA FM-AM table-type, 2 speakers, white, $50. EX 8-4032. A

REFRIGERATOR, Coldspot 8 cu ft, $50. DA 4-6748. A

BEDS, 2 bunk- or twin-size, w/ladder & box spring-mattresses, $50. PL 7-6973.

VACUUM CLEANER, Kenmore Tag-a-long Deluxe, $50. PL 5-6615. A

BICYCLE, girl's 24", reconditioned, $20. FA 8-3306. A

VACUUM CLEANER, Hoover Gold Constellation 86 floating-tank-type, w/all attachments, $50. OR 8-5958. A

SKI BOOTS, man's size 10, $10. OS 5-0838. A

WANTED TO BUY

CAR MANUAL, 1951 Mercury. FR 9-9616.

SABOT. FR 5-6364 before 3 p.m. B

PLAYER PIANO ROLLS. PL 4-5920. B

TRANSPORTATION TOKENS WANTED, collectors' items. FR 5-1170. B

FOR TRADE

FORD, 1931 Model A, trade for motorcycle, small sailboat or paint sprayer & compressor. FR 4-9809. C

PERSONALS

SINCEREST APPRECIATION for your thoughtfulness, cards & gifts during my present illness. DOROTHY "ANDY" HEATH. L

Tyro Twirlers Join Square Dance Class

Novice stompers to country music are invited to the NRC Square Dancing Club's class for beginners, starting Friday, March 27. Lessons will be from 7 to 8:30 p.m., preceding the regular dance session.

Ralph Hill will call the turns at the Henry Clay Junior High School auditorium, Western Avenue and 124th Street.

SURFED THE BIG ONES—Biggest public enemies along California beaches—as far as the fish are concerned—line up for surf-fishdom's 1958 gallery: Perry Cannon, largest yellowfin croaker; Ed Jacobs, most seaweed; Lou Bednarcik, most sharks and largest forktail; Dick Economy, January novice trophy; John O'Brien, largest fish in December field meet; NRC Surf Fishing Club Commissioner John Pawlicki, largest spotfin croaker and largest aggregate total; Ken Butt, December novice trophy; Harry Outland, largest barred perch and largest corbina; M. O. Neal, third largest aggregate total; Farrol Jones, barred perch derby winner; Bruce Kuhn, largest cabezone and largest skipjack; and Stan Nitupski, second largest aggregate total.

On St. Pat's Day, Danny Boy, Pipes Are (for the) Calling

Erin go bragh! And each male Norcrafter who cafeteria-lunches Tuesday, March 17, can put that in his pipe and smoke it!

In commemoration of St. Patrick's Day, genuine Irish-type clay pipes go to the boys lunching March 17 in both Norair cafeterias—Plants One and Three—and the Nortronics cafeteria, Plant Two. Both shifts are eligible for this lunching bonus. (No wearin' of the green or shillelah-wielding is necessary.)

This Shamrock Day gift is the second of 1959's special events for cafeteria-goers, according to Fred Wolfe, manager. The gals were valentined last month with Princess Aloha vanda orchids.

Spring Tenpin Tourney In Slot for Next Month

In the spring a young man's fancy lightly turns to thoughts of . . . entering the 1959 NRC Annual Spring Bowling Tournament before the March 23 deadline.

The gals are in the groove, too. In addition to the men's doubles and scratch singles, scheduled events call for women's and mixed duos, husband-and-wife pairing, and women's scratch singles. On the line are NRC trophies, alley awards and prize money.

All these tenpin tempests will brew at the Rose Lane Bowl, one block west of Western Avenue on Rosecrans. Dates are April 11, 12, 18, 19, 25 and 26—three consecutive Saturdays and Sundays.

Entry fee is $2.50 per person per event. Official rules and regulations, together with entry forms, are available at Personnel Activities, Plant One, and Industrial Relations offices at Plant Three and at Mariposa.

According to the four NRC Bowling Commissioners — Dave Carney, Mary Mimnaugh, Clarence Weiland and Corinne Davis —listing is on a first-come-first-scheduled basis. Lineups will be available April 2.

NORCRAFTER NOTCHES WORLD SPEED RECORD

A new boating world record was set by Norcrafter Bob Reynolds last month.

Bob, an NRC Boat Clubber, clobbered the previous record, only a year old, of 23.0 miles per hour for the measured mile, with a Salton Sea-churning 55.0 mph. The mark, chalked up at a Western Outboard Association sanctioned meet, is unofficial because speed trial rules call for the average of two runs—one with the wind and one against. Bob bucked the breeze at 55.0 and then, because of choppy waters and high winds, his "easy" mile was canceled together with the rest of the trials.

The eight-foot midget-class Royal Flush, which so swiftly plowed the Salton, is co-owned by Bob and Bill Stamps, another Norcrafter and NRC Boat Club member. Their outboard runabout is powered by a Mark XXVIII.

At the same meet, the old 23.0-mph mark was also topped by a third Norcrafter, Ernie Laughlin. He piloted his Coffee Royal at a sizzling 51.1 mph, again into the wind.

Films of boatdom's equivalent to the four-minute mile are slated for TVing April 13 at 7:30 p.m. on Channel 13's *Wanderlust*, hosted by Bill Burrud.

Just a couple of weeks after that, the trio of speedsters intend to take another whack at writing their record into the books with indelible ink . . . choppy waters permitting.

GALS TAKE RALLYE WHEEL AS PANIC REIGNS ON SUNDAY

Watch out for the curves, men—the petticoats are masterminding a rallye this Sunday.

Betty Enoch and Paula Larson co-star as rallyemasters for the NRC Sports Car Club's March event, the Petticoat Panic. They report that it's a fun rallye, necessitating nothing more than a mapreading eye and a horseless carriage. The latter requirement can be satisfied by anything from Coupe de Ville to Cyclops II—with or without wire wheels.

According to Jack Kirkpatrick, commissioner, there's no symbolism in scheduling on the 15th, the Ides of March (although the wily gals may dethrone some Caesars). Wheels will spin at 10 a.m. on Norair parking lot H.

Fee is $1.50 per car, in addition to $1 per person for a post-rallye spaghetti feed. Progeny 12 years old and under are $0.50.

NO HANDICAP IN THIS DERBY—NRC SURFERS VS. PERCH

If barred perch know what's good for them, they'll give a wide berth to Torrance Beach this Saturday, March 14.

On the other hand, hoping they don't are the NRC Surf Fishers who are planning a barred perch derby from 8:30 a.m. to 1:30 p.m. that day.

John Pawlicki, commissioner, points out that derby eligibility requires registration at Red's Bait Shop, Redondo Beach pier, and at Torrance Beach. Up for the hooking are the monthly prizes — largest fish, most fish, and the novice trophy — supplemented by other awards.

NRC Toastmasters 1398 Install New Helmsmen

The newly elected slate of officers for Toastmasters 1398 will be installed March 28, 7 p.m., at the Club Alondra.

Incoming officers are Rudy Pummer, president; Dick Gibbs, educational vice-president; Andy Hooton, administrative vice-president; Ted Kelly, secretary; Mike Michaels, treasurer; Jim Murphy, sergeant at arms; and Bill Willis, publicity director.

Citation Service

Traffic citation service has been reactivated by Personnel Activities.

For the convenience of Norcrafters who wish to pay citation fines, the following times have been made available.

Personnel Activities, Plant One: 11 a.m.—12:55 p.m.; 3 p.m.—6 p.m.

Industrial Relations, Plant Three: 8 a.m.—4:45 p.m.

Industrial Relations, El Segundo: 7:15 a.m. — 4:30 p.m.

It is suggested that citations be presented for handling as soon after the date of issuance as possible.

RIDES WANTED

7:00 a.m. — 3:45 p.m.

ROSECRANS & 144th ST., Hawthorne. Charlotte Scherck, OS 9-4342. 2

LENNOX BLVD. & PRAIRIE, Lennox. Marcia Woodman, OR 2-6385. 2

ENTERPRISE & INGLEWOOD AVE, Venice. Matha Hicks, OR 1-9682. 2

IMPERIAL & STATE, Lynwood. Jane Rayson, NE 1-6933. 2

7:30 a.m. — 4:15 p.m.

CRENSHAW & 178th ST., Torrance. Helen Grutsis, DA 9-4804. 3

FOOTHILL & MITCHELINDA, Pasadena. E. A. deVoss, EL 5-9536. 3

ATLANTIC & ROSECRANS, Compton. Gene Moore, NE 9-4113. 3

GRAMERCY & PLAZA DEL AMO, Torrance. Jo Ann Bacon, FA 8-0706. 3

LINCOLN & MAGNOLIA, Anaheim. W. A. Day. JA 7-4270. 3

EL MANOR & 77th ST., Los Angeles. F. C. Bain, OR 4-6816. 3

8:00 a.m. — 4:45 p.m.

SEPULVEDA & VALLEY, Manhattan Beach. J. Fitzgerald, ext. 1642. 5

PALO VERDE & SOUTH, Lakewood. Walter Yates, TO 6-3368. 5

EUCALYPTUS & MANCHESTER, Los Angeles. Frances White, ext. 2123. 5

HYDE PARK & WEST, Inglewood. J. R. Mansis, OR 1-5867. 5

FREEMAN & IMPERIAL, Inglewood. Bernice Coates, OR 3-2359. 5

ORANGETHORPE & SPADRA, Fullerton. Faye Robbins, TO 7-4261. 5

PRAIRIE & 174th ST., Torrance. C. W. Zettler, DA 4-8379. 5

ANZA & TORRANCE BLVD., Torrance. A. G. Blackburn, FR 6-8134. 5

DENKER & 96th ST., Los Angeles. O. Navarette, PL 6-1129. 5

SHERMAN WAY & WHITSETT, North Hollywood. I. J. Haber, PO 5-1203. 5

CRENSHAW & TORRANCE BLVD., Torrance. L. A. Dietrich, FA 8-3509. 5

BROOKHURST & HAZARD, Garden Grove. Frank Cueto, JE 1-1001. 5

CRENSHAW & SANTA BARBARA, Los Angeles. R. Ortasse, AX 4-4831. 5

GOULD & LONGFELLOW, Hermosa Beach. Donna Pollock, FR 6-4922. 5

4:45 p.m. — 1:15 a.m.

CENTINELA & FLORENCE, Inglewood. Betty Morrow, OR 2-3413. 8

RIDES OFFERED

7:00 a.m. — 3:45 p.m.

DEL AMO & PALO VERDE, Lakewood. Charles Cobb, HA 9-7772. 12

IMPERIAL & STATE, Lynwood. Jane Rayson, NE 1-6933. 12

7:30 a.m. — 4:15 p.m.

FOOTHILL & MITCHELINDA, Pasadena. E. A. deVoss, EL 5-9536. 13

LINCOLN & MAGNOLIA, Anaheim. W. A. Day, JA 7-4270. 13

EL MANOR & 77th ST., Los Angeles. F. C. Bain, OR 4-6816. 13

8:00 a.m. — 4:45 p.m.

ANZA & TORRANCE BLVD., Torrance. A. G. Blackburn, FR 6-8134. 15

DENKER & 96th ST., Los Angeles. O. Navarette, PL 6-1129. 15

SHERMAN WAY & WHITSETT, North Hollywood. I. J. Haber, PO 5-1203. 15

CRENSHAW & TORRANCE BLVD., Torrance. L. A. Dietrich, FA 8-3509. 15

BROOKHURST & HAZARD, Garden Grove. Frank Cueto, JE 1-1001. 15

CRENSHAW & SANTA BARBARA, Los Angeles. R. Ortasse, AX 4-4831. 15

T-38 Talon Supersonic Trainer

Northrop-Norair News

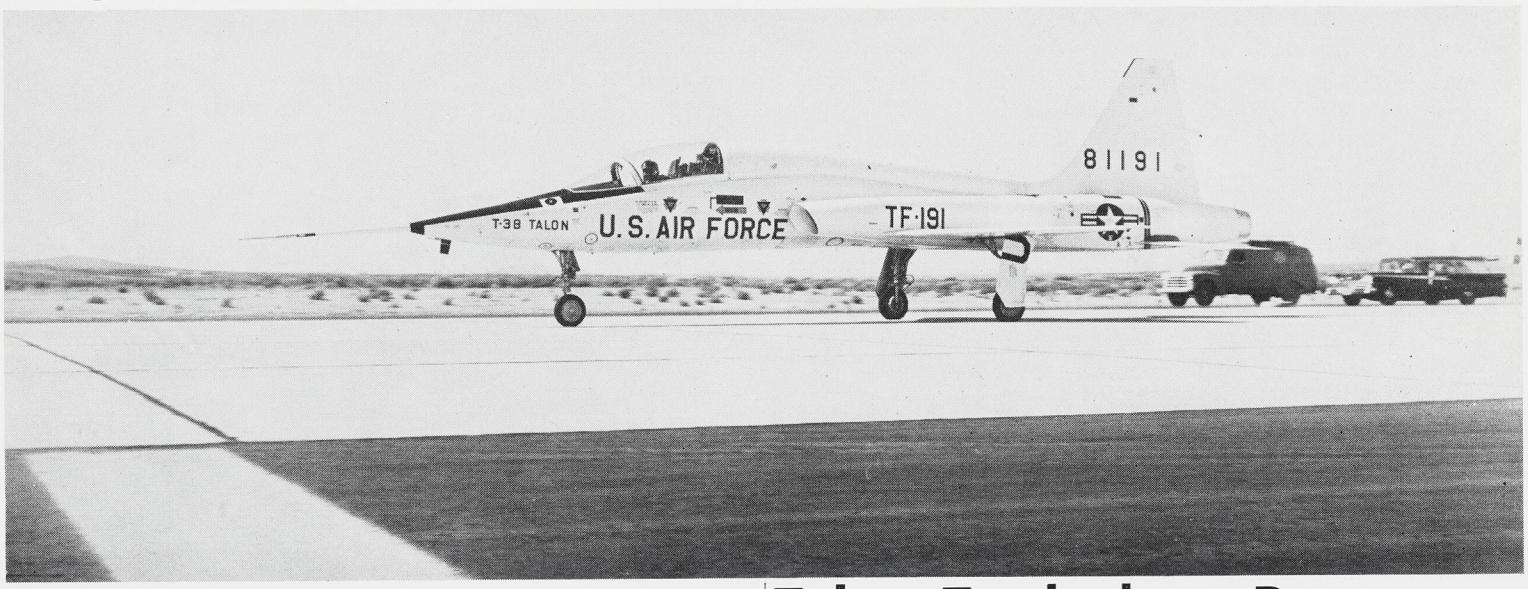
Issued biweekly by Norair Division of Northrop Corporation • Wednesday, March 25, 1959

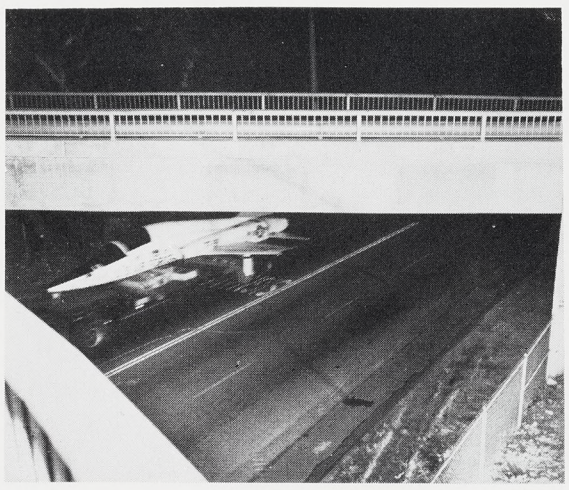
T-38 TALON TAXI TESTS AT EDWARDS

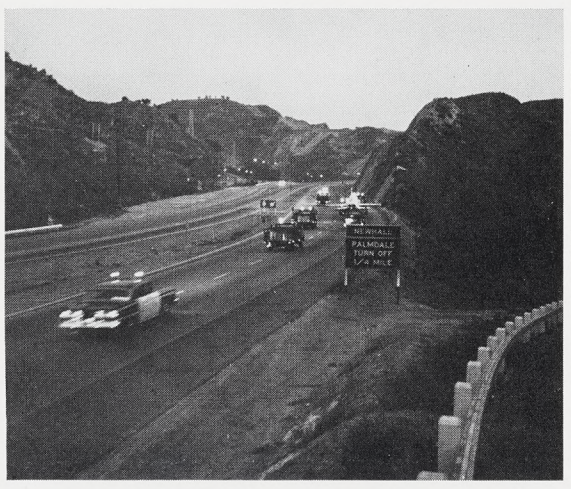
T-38 TALON—In low-speed taxi tests at Edwards, Talon first moves under her own power. Lew Nelson, Norair pilot, is at the controls.

EDWARDS BOUND — T-38 Talon is photo'd below going underneath Sepulveda-Wilshire interchange in early-morning darkness. Caravan left plant 2:30 a.m.

SUNRISE — In upper right photo, day greets T-38 caravan on the famous Ridge Route. Highway officials praised Norair for efficient way move was handled.







EDWARDS ARRIVAL—Caravan was met by Air Police from Edwards, escorted last 16 miles of the trip. Crews were waiting. Low-speed taxi test took place the next day — high-speed Friday.

SIGNED AND SEALED—Norair Base Administrator Jack Farley accepts Talon delivery at 9:30 a.m. from Link Hoen, Transportation, in charge of caravan. From left are Les Ferguson, Flight Test engineer; Louie Weltz, Manufacturing head at Edwards; Farley; Larry Wiskin, Liaison engineer; Hoen; Hank Chouteau, Norair test pilot; Harold Mead, Quality Control. Taxi briefing followed immediately.

Talon Trucked to Desert In Safe and Speedy Trip

The T-38 Talon has gone through low-speed and high-speed taxi tests at Edwards.

She left her nest at the Advanced Production hangar Wednesday of last week. Time of departure — 2:30 a.m.

Her glistening skin and big Plexiglas canopies struck fire from the night stars as she was rolled out of the hangar on a big and sturdy Norair semi.

Norcrafter drivers Harry Johns and Frank Gutierrez were in the cab and supersensitive to the importance of their charge.

With escort in front and behind carrying large *Wide Load* signs and all vehicles controlled through short-wave radio, the caravan took the route through the San Fernando Valley. Daylight caught them at the aqueduct. They climbed the Ridge Route, turned east at Gorman and crossed Antelope Valley.

The great Mojave desert was next and Edwards dead ahead.

Brigadier General John W. Carpenter III, Edwards CO, had

(See TALON TAXI, Page 2)

Corporation Earnings up First Half

Earnings and profit margins of Northrop Corporation continued to improve in the first half of the 1959 fiscal year, Whitley C. Collins, president, recently disclosed.

During the period, the Company received several highly significant contracts in areas of ad-

(See FIRST HALF, Page 2)

Management Club To Install New Officers at Next Meet

The Management Club will hold 1959 officer installation Apr. 3 at the Rodger Young Auditorium.

New officers:

President E. J. Noonan, Nortronics; Vice-president George Sterling, Field Service; Vice-president, nights, D. J. Wright, Nortronics; Secretary, Leo Richman, Administrative Services; Treasurer, Charlie Eyres, Engineering; Sergeant at Arms, E. C. Hummel, Engineering.

Board of Control appointees:

Education, Alex Morrison, Material Coordination: Facilities, Tony Gayou, Boeing Subcontracts Inspection; Finance, Bill Schramm, Tool Engineering; Membership, John Andre, Engineering and Scientific Personnel; Program, Sid Hall, Nortronics; Publicity, Lou Bednarchik, Quality Control; Tickets, Jim Devendorf, Contracts and Services.

Following installation of President Noonan, club objectives for 1959 will be outlined to the membership.

Featured speaker of the evening will be William Larrabee, Corporate vice-president, Legal, who will give a state-of-affairs address on Company projects and activities.

Dinner for the evening will be prime rib or fish.

Social hour will be from 6 to 7 p.m. Dinner will be at 7 p.m.

N-156 High In Foreign Interest

Foreign interest in the N-156F continues at a high level, it is reported by Corporate Senior Vice-president Thomas V. Jones, following a team briefing to Canadian officials at Ottawa last week.

Mr. Jones also met with the

(See N-156F, Page 2)

NORTHROP–NORAIR

NEWS BRIEFS

BOEING THOUSAND-DOLLAR SIDELIGHT — The $1000 award idea by Norcrafter W. A. Geiersbach (see photo, Page 4), will reap major savings which will initially accrue to Boeing on the 707 and KC-135 outer wing assemblies—but not necessarily to Norair. Redetermination features of the Boeing-Norair contract provide that final price be hinged to actual cost. Norair profits are figured at a specified percentage of this actual cost . . . Lower costs which are here achieved mean a lower profit percentage base. Thus the Company is in the position of paying top money for an idea that, due to circumstances, will reduce profits. In commenting, Norair Vice-president and General Manager Dick Nolan stated, "The idea is, of course, applicable to the manufacture of all high-speed aircraft and missiles and represents specific progress in the art. Boeing, the gov-

(See NEWS BRIEFS, Page 2)

GUESS HOW MANY EASTER EGGS— WIN FREE MEALS!

How many jellybean Easter eggs are in the bowl?

Norcrafters who guess closest will find it worth their while.

Fred Wolfe, Cafeteria manager, announces that today and tomorrow a guessing contest will be under way at all cafeterias. Winners will be announced Friday.

Object will be to guess how many jellybean Easter eggs are in the bowls at cafeterias in Plants One, Two and Three.

There will be separate awards at all three cafeterias:

First prize — free breakfasts and lunches for a week.

Second prize—free breakfasts for a week.

(See EASTER, Page 4)

Communications - - an Important Tool

Do we talk straight?

We certainly like to think we do. No one wants to be branded as inarticulate and unable to issue an understandable order or give a lucid report.

Success or failure in this respect boils down to how and with what tools we communicate, whether we communicate at all.

Communications is one of the most important elements to the success of an enterprise. It is especially important to team effort. Jobs depend on communications.

Now—what does communications consist of? Speech, bulletins, signs, appearance of the plant, orders, anything that conveys men's thoughts and ideas. The Northrop-Norair News *is a good example of communications. These are the tools and tools must be used properly.*

The man in this Division most sensitive to the job communications is doing is Vice-president and General Manager Dick Nolan. Last week the News *asked him:*

Mr. Nolan, would you discuss communications and assess our team efficiency in this important area?

COMMUNICATIONS—"This is one of the most difficult problems of management. Another is selection and training of executive personnel . . . And these are the areas where failures, and costly failures, most frequently occur.

FAILURE — "Most frequent cause of communications breakdown is the communicator believing he is understood when he isn't . . . We must make sure that people understand what we are saying or communicating. In industry, misunderstandings cost money and time . . .

POSITIVE LEADERSHIP — "People respond to positive, yet sympathetic and understandable, leadership. Positive communications is a sure sign of positive leadership. Progress, achievement, solid gains are direct results of positive communications.

THREE RULES—"The experts say that to properly communicate you must (1) tell people what you are going to tell them; (2) tell them; (3) tell them what you told them . . . This does not indicate disrespect for your audience. It indicates instead a sympathy and an investment in the responsibility you pass on with the communication . . .

ACCEPT THE BLAME—"A good communicator must develop the mental discipline to accept the blame when his orders or directives are misunderstood. When directives and orders are misunderstood, careful analysis must be made to insure that the fault is corrected. This often takes serious self-study and a change of habits.

BEWARE—"When a man says, 'This is hard to put into words,' or, 'I know what I want to say but can't say it,' this only means he doesn't know his subject or what he wants to say about it . . .

FOR THOSE WHO WRITE—"For some men, their oral communications are perfect—but, when they write, they use stilted, ponderous language that does not say what they mean or is difficult to understand. Therefore, these people should write like they talk and not how they think it should look on paper. Simplicity is the main ingredient of clarity.

YOU MUST UNDERSTAND—"In order to understand a communication, you must keep your mind open . . . Do not be afraid or ashamed to ask questions . . . It is actually a dereliction of duty and responsibility to proceed on a project if you do not understand the instructions.

SHINING EXAMPLES—"Shining examples of successful communications at Northrop-Norair: the T-38 Suppliers Symposium and the recent Weapon System Management team conferences."

Talon Taxi—

(Continued from Page 1)

his Air Police on alert. They met the caravan and the Talon entered the Edwards gate at 9:30 a.m., three hours ahead of schedule.

Johns and Gutierrez and everybody else on the caravan matched grin for grin with the people at the base. It was a proud Norair morning all around.

Tool boxes were already open and jet fuel trucks were standing by.

Said Link Hoen, Transportation man in charge of the move, "With that fine sun up and shining, and the airplane safe and snug in her cradle and everything normal, the boys voted to forego our two early morning breaks. We wanted to get the T-38 to Edwards and turn her over to her crew. We just kept on going.

"We thought we would surprise the desert boys — but they were ready. It was a fine feeling. I wish all Norcrafters could have been there."

Jack Farley, Edwards base administrator, and his boys didn't waste time after the T-38 arrived. First taxi was the next day, Thursday. Pilot Lew Nelson took her out to slow-speed test nosewheel steering, check out the hydraulics, and shake down all the other little odds and ends that bran' spanking new airplanes require.

Friday, high-speed taxi test took place.

N-156F—

(Continued from Page 1)

RCAF in outlining complete features of this newest fighting member of the Northrop lightweight, low-cost family of airplanes.

Presentations were highlighted by news of the T-38 taxi tests. See story, Page 1.

From Ottawa, Mr. Jones emplaned for overseas to give the presentation to other members of free allied governments.

NEWS BRIEFS

(Continued from Page 1)

ernment, the airlines, and the public will for many years realize low-cost dividends from this idea. Suggestions by Norcrafters, such as Mr. Geiersbach's, point out that the technological resources and manufacturing knowhow of this Division are continuously at work to produce a better product at a lower price to the customer. Mr. Geiersbach receives our most sincere and wholehearted congratulations."

WSM PROPOSAL—The Company has finalized an outstanding proposal on a USAF strategic weapon systems requirement, it has been announced by John Alison, vice-president, Customer Relations. (See News Briefs, 25 February 1959.) "Written proposal was submitted to the Air Force Source Selection Board at Wright-Patterson AFB two weeks ago," stated Mr. Alison. "Oral presentation was given to USAF 20 March by a team headed by Mr. Collins and consisting of Mr. Nolan, Mr. Gasich, and Mr. Kuska."

SYMPOSIUM—Complimentary letters have been received from companies attending the T-38 supplier team symposium. Reaction can best be expressed by direct quotes from letters received from high officials of companies attending: " . . . No symposium has ever been presented in better form nor made a more lasting impression . . . " " . . . Congratulations for an excellent and very constructive program in an area so vital to our country's defense . . . " "The necessary stimuli . . . to attain long-range objectives of the T-38 program . . . " " . . . An excellent step in the advancement of aviation . . . " "We are proud to be considered a member of the T-38 team."

Past Years in the News

FIFTEEN YEARS AGO—

Wednesday, March 15, 1944

Southland rumors indicated that Northrop P-61 Black Widow night fighters were based at Santa Ana Air Base.

* * *

The Air Materiel Command, Wright Field, announced that a complete "Hamp" Japanese Zero had been reassembled from parts of five Zeros shot down during the battle for Buna airstrip. Wings and cockpit were an integral unit. Tail section and engine mounts were bolted on.

TEN YEARS AGO—

Wednesday, March 23, 1949

British Air Chief Sir Charles Medhurst was a distinguished visitor.

* * *

Northrop Aeronautical Institute students built jet engine by converting a P-38 supercharger.

Three Norair Engineers on ASM Metal Congress Podia

Three Northrop-Norair metals experts had places on the American Society for Metals technical program presented at the recent 11th Western Metal Congress.

W. R. Roser, Materials and Process Engineering, presented a paper in the session devoted to improvements in quality control of castings — "17-4 PH Investment Castings."

Charles Avery, also of Materials and Process Engineering, chaired the session whose topic was "Fabrication and Reliability Problems Associated with Specific Alloys." Mr. Avery had served for months on an ASM program committee which formulated session programs for this metals symposium.

On the American Welding Society program was Harold Smallen, Materials Research Laboratory. His topic was "Welding of PH 15-7 Mo."

CONSERVATION COORDINATOR TO HEAD AIA GROUP

Bob Lloyd, vice-president, Manufacturing, announces that Ray Wenger, Northrop-Norair Conservation general coordinator, has been elected chairman of the AIA Conservation subcommittee.

Mr. Wenger was instrumental in first establishing Material Conservation as a specific program at Northrop-Norair eight years ago. He is also a charter member of the AIA's Manufacturing Conservation subcommittee, which stems from the key AIA organization, the Manufacturing committee.

Mr. Lloyd is a permanent member of the Manufacturing committee.

The conservation program at Northrop-Norair has made possible the saving of great amounts of raw and fabricated material through the years. Mr. Wenger, whose early training was in the automotive industry, is one of the nation's outstanding authorities on manufacturing processes.

First Half—

(Continued from Page 1)

vanced technology which hold promise of accelerating growth, the president commented.

Earnings for the six months ended January 31, 1959, amounted to $3,144,704, equal to $1.97 a share on the 1,594,703 shares of common stock outstanding. This compares with $2,864,369 earned in the first half a year ago, which equaled $1.82 a share on the 1,570,844 shares then outstanding.

Sales and other income for the initial half were $116,042,409, compared with $125,524,168 of the like period last year. As a result of the higher net on reduced sales, profit margins continued their trend upwards to 2.7 per cent of sales, Mr. Collins noted. The earnings ratio last year was 2.3 per cent which, in turn, had been a marked improvement over the preceding year.

Unfilled orders at January 31 last totaled $264 million, up $22 million since the fiscal year ended last July 31. Backlog on January 31, 1958, was $275 million. About 68 per cent of the current backlog is for electronics, missiles and associated systems. The remaining 32 per cent is manned aircraft, with 14 per cent under prime contracts and 18 per cent under subcontracts.

Prospects for still further improvement in sales and earnings are excellent, he stated.

"Volume should increase as major product programs still in the development and testing stage move into volume production in the next year or so. Profit margins should improve through a combination of the effectiveness of cost control programs and the increase portion of business represented by production orders. Northrop will continue to explore promising and logical avenues for growth through acquisition, such as that of Page Communications Engineers, as well as exploiting the opportunities for growth from within," Mr. Collins concluded.

Northrop-Norair News

Vol. 17 No. 12

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A NORTHROP CORPORATION PUBLICATION

Published every other Wednesday

PUBLIC RELATIONS

NORAIR DIVISION

CHARLES BARR, Director

CHARLES BRADFORD, Editor

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FUTURE PROTECTED—New Norcrafter Al Smith has enrolled for group insurance for himself and seven dependents after the benefits of the coverages were explained to him by Rose Weins of Personnel. His coverage will be effective three months from date of employment. Dependent eligibility is discussed at right.

BENEFITS PAID—These files contain the claims for which benefits have been paid during 1958. Bill Waldon, Insurance supervisor, reviews a case with Marie Dugas, while Jackie Araujo, in foreground, checks for a particular file. Many of the bulky envelopes represent hundreds of group benefit dollars paid out.

Group Insurance Pays $3000

HELPFUL ASSISTANCE—Bill Waldon, Insurance supervisor, discusses claim payments with a Norcrafter who, with his family, was involved in a serious accident the last day of 1958. Group insurance paid nearly $3000 in hospital and medical bills incurred by this Norcrafter, his wife and their two children. Major medical plan is only one of the many Northrop-Norair group insurance benefits.

Group Insurance Is a "Best Buy" For Thousands of Norair Families

Group Insurance . . . Just what do these two words mean to each Norcrafter as an individual?

In excess of $23,000 is the answer to the above question. In effect, this amount of money is deposited to your account to pay for various medical expenses that might be incurred by you as a result of injury or illness. This amount breaks down as follows:

Life insurance is $5000 and $5000 is payable in the event death occurs from accidental means. In the event you are hospitalized, $2600 is available. If the illness or injury requires surgery, up to $600 can be paid. Poliomyelitis illness will result in $5000 being paid for the treatment of this illness. An accident provides $300. Medical expense and diagnostic X-rays provide $275. Then there is major medical insurance that provides an additional $5000 in benefits to cover those expenses that are in excess of any of the benefits previously enumerated. This, generally speaking, is your group insurance provided by the Norair Division. Specific questions relating to this general subject are listed below for your further information.

Q. How much does a Norcrafter pay for his individual group insurance?

A. Nothing. The Norair Division provides, without cost, hospital, surgical, medical, X-ray, polio, accident and major medical benefits and, in addition, $5000 life and $5000 accidental death and dismemberment insurance.

Q. How much does dependent group insurance cost?

A. It costs $1.32 per week for the following benefits: hospital, surgical, polio and accident. Major surgical coverage costs $0.51 per week.

Q. What dependents are eligible for group insurance coverage?

A. For a male Norcrafter, the eligible dependents are his wife and unmarried children at least 14 days but less than 19 years of age. For a female Norcrafter, the eligible dependents are unmarried children only, with the same age restrictions as a male Norcrafter.

Q. Under what conditions does an insurance deduction total more than $1.83 per week?

A. Every Norcrafter is entitled to additional life insurance based on weekly earnings on a contributory basis. A table in *Your Group Insurance* booklet shows amount and cost.

Q. What are the maternity benefits?

A. Benefits are up to $150 for a Norcrafter or $80 for a dependent wife of a Norcrafter.

Q. Are X-ray and laboratory expenses covered?

A. Individuals on the Norair payroll have benefits that pay for diagnostic X-rays and laboratory tests performed in a doctor's office with a $25 maximum for all illnesses within any six-month period. For each accident, $25 is also provided.

Q. What is the $100 deductible in major medical and how does it work?

A. The $100 deductible applies to each individual Norcrafter and each individual dependent for any calendar year. One hundred dollars of eligible charges, which are not covered by or paid under the basic plan, satisfies the deductible for the calendar year.

Q. What does the major medical plan pay after the deductible has been satisfied?

A. The plan pays 80 per cent of eligible charges for the Norcrafter and 75 per cent for the individual dependent.

Q. What relationship does the State Disability Plan have to Norair's hospital benefits?

NORAIR FAMILY GROWS—Norcrafter Jack Marinko escorts his wife, Lynie, and new daughter, Kathy, from the hospital. Stopping in front of the maternity entrance for a peek, Johnny dubiously surveys his new sister and perhaps wonders if she will make a good playmate. Maternity benefits from the Norair group insurance plan assisted in defraying costs of the two Marinko children.

A. The state pays $12 per day for the first 20 days of confinement. Group insurance will pay an additional amount not to exceed $8 per day, for a total allowance of $20 a day.

Q. In case of accidental death, will payment be made on both the accidental death and dismemberment and life policies?

A. Yes, the Norcrafter's beneficiaries will receive the full face value of both policies in the case of his accidental death.

Q. When does an individual's group insurance terminate?

A. Group insurance coverage ceases at the time of termination of employment, with the exception of life coverage which continues for 31 days from the date of termination.

Q. Can group insurance be converted?

A. Only group life insurance can be converted to any policy except term insurance written by the Prudential Life Insurance Company of America. The cost will be determined by a person's age at the time of conversion. The other portions of group insurance cannot be converted to an individual policy.

Q. How much time does one have to convert group life insurance?

A. It must be converted within 31 days from the date of termination of employment.

Q. What happens to an individual's group insurance when he is transferred to another Division of Northrop Corporation?

A. The group insurance transfers with the person to the new Division and all claims will be paid by the group insurance office of the new Division.

Norcrafters and their dependents have benefited during the past year by this very broad and complete coverage. Benefits paid have been in excess of $3,000,000. *Your Group Insurance* booklet or the insurance certificate will more fully explain the liberal benefits to which each Norcrafter is entitled. The group insurance staff is available 16 hours a day, five days a week to answer any questions a Norcrafter, his doctor or his hospital may have.

Highest Award - - - - $1000

$1000 SUGGESTION—W. A. Geiersbach, Metal and Honeycomb Bonding, second from left, receives $1000 Suggestion Award check from Northrop-Norair Vice-president, Manufacturing, Bob Lloyd. Bill's idea, developed on the Boeing 707 wing assemblies, is a new process used in substitution for Chem-milled metal covers in metal bonding operations on first stage of honeycomb assemblies. His suggestion was tried for six months—proved great savings, produced better parts. At left is Suggestion Award Representative George Hunt. At right is Bill's foreman, George Babajian. For information on the process, call John Oliver, Product Licensing, extension 1735. Bill's $1000 award is seventh in the long history of Northrop-Norair Suggestion Award program.

RIDES WANTED

7:00 a.m. — 3:45 p.m.

INGLEWOOD AVE. & 99th ST., Inglewood. A. V. Eis, ext. 2649. 2

PASEO DEL MAR & WESTERN, San Pedro. Virgil Nespolo, TE 1-2973. 2

SLAUSON & 52nd PL., Los Angeles. Bill Ivey, ext. 1820. 2

ROSECRANS & VERMONT, Gardena. Gladys Coppola, ext. 2441. 2

7:30 a.m. — 4:15 p.m.

CASTLE HEIGHTS & NATIONAL, Los Angeles. Miriam Hayman, ext. 1530. 3

MANHATTAN AVE. & 21st ST., Hermosa Beach. D. M. Grillo, FR 6-3386. 3

HERMOSA & 4th ST., Hermosa Beach. Jean Williams, FR 6-2503. 3

SATICOY & TOPANGA CANYON BLVD., Canoga Park. W. R. Faught, DI 0-7216.

DALE & ORANGE, Anaheim. W. A. Day, JA 7-4270. 3

SANTA CRUZ & WESTERN, San Pedro. D. L. Sherman, TE 1-1971. 3

HAWTHORNE BLVD. & REDONDO BEACH BLVD., Lawndale. Carole De Capito. FR 6-2381. 3

GRAMERCY & PLAZA DEL AMO, Torrance. Jo Ann Bacon, FA 8-0706. 3

EL MANOR AVE. & 77th ST., Westchester. F. C. Bain, OR 4-6816. 3

8:00 a.m. — 4:45 p.m.

IMPERIAL & VAN NESS, Hawthorne. Jean Hamilton, OR 2-9336. 5

HIGHLAND & MARINE, Manhattan Beach. Virginia Fleck, FR 3-2991. 5

EXPOSITION & HOOVER, Los Angeles. (Desire ride to USC campus Wednesdays for 6:10 p.m. class.) F. A. Lattanzio, ext. 2511. 5

SANTA MONICA BLVD. & WESTERN, Hollywood. Harold Greer, HO 4-6094. 5

LA CIENEGA & VENICE BLVD., Los Angeles. Mel Jasgur, WE 5-3419. 5

GARDEN GROVE BLVD. & LOS ALAMITOS, Los Alamitos. Barbara Hallock, ext. 1257. 5

WESTERN & 8th ST., Los Angeles. Phil Flores, ext. 1543. 5

INGLEWOOD AVE. & 134th ST., Hawthorne. P. F. Christopher, OS 5-2565. 5

Miscellaneous — Split Shift

BEVERLY & SILVERLAKE, Los Angeles. (Hours: 12:45 a.m.—7:30 a.m.) Leslie Kaldor, NO 5-3912. 10

HAWTHORNE BLVD. & SEPULVEDA, Torrance. (Hours: 4:15 p.m.—12:45 a.m.) Betty Montgomery, FR 5-8058. 10

RIDES OFFERED

7:00 a.m. — 3:45 p.m.

PASEO DEL MAR & WESTERN, San Pedro. Virgil Nespolo, TE 1-2973. 12

SLAUSON & 52nd PL., Los Angeles. Bill Ivey, ext. 1820. 12

ESCHELMAN & 240th ST., Lomita. J. K. Aubry, DA 6-4776. 12

CENTINELA & LA BREA, Inglewood. Mathu Hicks, OR 1-9682. 12

7:30 a.m. — 4:15 p.m.

SATICOY & TOPANGA CANYON BLVD., Canoga Park. W. R. Faught, DI 0-7216.

DALE & ORANGE, Anaheim. W. A. Day, JA 7-4270. 13

EL MANOR AVE. & 77th ST., Westchester. F. C. Bain, OR 4-6816. 13

CITRUS & SAN BERNARDINO FRWY., Covina. R. J. Hallowell, ED 2-4409. 13

SANTA CRUZ & WESTERN, San Pedro. D. L. Sherman, TE 1-1971. 13

8:00 a.m. — 4:45 p.m.

HIGHLAND & MARINE, Manhattan Beach. Virginia Fleck, FR 3-2991. 15

SANTA MONICA BLVD. & WESTERN, Hollywood. Harold Greer, HO 4-6094. 15

LA CIENEGA & VENICE BLVD., Los Angeles. Mel Jasgur, WE 5-3419. 15

GARDEN GROVE & LOS ALAMITOS, Los Alamitos. Barbara Hallock, ext. 1257. 15

WESTERN & 8th ST., Los Angeles. Phil Flores, ext. 1543. 15

INGLEWOOD AVE. & 134th ST., Hawthorne. P. F. Christopher, OS 5-2565. 15

FIGUEROA & 74th ST., Los Angeles. Jack Roper, PL 3-7431. 15

4:45 p.m. — 1:15 a.m.

BROOKHURST & WESTMINSTER, Garden Grove. A. L. Burton, JE 1-2414. 18

Easter—

(Continued from Page 1)

Third prize—the jellybeans (to take home for Easter).

Fourth prize—a deluxe flight box lunch.

The entire show is of course to help celebrate Easter. Genial Fred gave the men pipes on St. Patrick's day. Women got orchids on Valentine's Day.

What is next? "Bonus days again," says Fred. Dates will be announced in the *News* when Bonus Days have been scheduled.

Nor-AID Up For First Fiscal Half

Interim financial report released by Nor-AID for the six-month period ending January 31, 1959, depicts a continuing record of outstanding assistance to Norcrafter families.

Nor-AID is Northrop's own charitable organization which gives all personnel the opportunity to assist their fellow Norcrafters in time of need and is based on the principle that Norcrafters "take care of their own" in times of adversity.

Net receipts for the six-month period were $22,246.61, against $17,072.11 for the same period for 1958, it is reported by Mal Mountain, Nor-AID vice-president and administrator.

Associated In-Group Donors (AID) is the organization through which Norcrafters make both outside charity and Nor-AID contributions.

Norcrafters and their families who qualified for assistance under Nor-AID regulations were granted $23,126.24, compared to $36,570.88 during the period ended January 31, 1958.

Top "Racketeer" Shows Finesse To Tennis Club

The sneaker-shod gentry in the Northrop Recreation Club are slated for an edifying gettogether Monday, April 6.

Guest speaker is Bill Ackerman, former UCLA tennis coach and presently general manager of UCLA Associated Students. In addition to a tennis stroke demonstration, he will show a pertinent film.

The meeting is at 7:30 p.m. at the NRC Clubhouse, 175 North Hawthorne Blvd., Hawthorne.

Commissioner Ed Hummel invites all tennis devotees to attend this meet.

NRC Good Time Table April

For enrollment or information on activities listed below, call or contact Personnel Activities, Plant One, extension 2784. All clubs meet at the NRC Clubhouse unless otherwise noted.

ARCHERY (days), Wes Williams
Meet Wednesdays, 7:30 p.m.—movies 1st Wednesdays. Archery classes now in session.

ARCHERY (nights), Ray Mechling
Meet at 513 W. 146th St., Gardena, 3rd Sundays.

ART CLUB (days), Forrest Ayrest
Meet in Annex Thursdays, 7 p.m. Models furnished by NRC.

ASTRONOMY (days), Jim Stowe
Meet 2nd & 4th Mondays, 7:30 p.m.

BIBLE STUDY, Roy Stahl
Plant I—Daily, 11:30-12:15, Tool Design Bldg; 11-11:45, 5566 Conf. Room.
Plant II—Mondays & Thursdays, 12-12:45, Conf. Room 2.
Eng. Center—Daily, 12-12:45, Reliability Conf. Room.

BOAT CLUB, Ken Payne
Meet 1st Wednesdays, 7:30 p.m. Anchor Drag April 25.

BOWLING (days), Dave Carney

BOWLING (nights), Charlie George
Spring Tourney this month—schedules available April 1. Summer leagues forming.

BOY SCOUTS, Sid Cohan
Sea Scouts, Intermediates, Cub Scouts. All Norcrafter boys welcome.

CAMERA CLUB (days), Fred Armstrong
Meet 1st, 3rd & last Wednesdays, 7:30 p.m.

CAMERA CLUB (nights), John Newman
Meet 1st and 3rd Saturdays.

CAMPING CLUB, Fred Brant
Meet 1st Mondays.

CHESS CLUB, Bill Henderson
Facility-wide tournament in progress.

GEM & MINERAL CLUB (days), Ray Cole
Meet 2nd Wednesdays, 8 p.m. Mineralogy classes Thursdays, 7-9 p.m.

GEM & MINERAL CLUB (nights), Victor Lincoln
Meet Wednesday, April 1, 1:30 p.m.

GOLF (days), Ted Deguisne

GOLF (nights), Russ Munsen
Ojai Valley April 26. League play starts April 27.

GUN CLUB (days), Robert Raines
Meet 3rd Wednesdays, 7:30 p.m.

KNITTING, Nina Shannon
Meet Thursdays, 7:30 p.m., starting April 2.

MIXED CHORUS, Burt Bracher
Meet Tuesdays, 7:30 p.m.

MODEL RAILROAD, Jack Wilson
Meet in Annex Thursdays, 7-10 p.m. Visitors welcome. Need electricians, carpenters & scenic artists to help with new layout.

ORGAN CLUB, Gail Skinner
Meet at Inglewood Elks Club Tuesday, March 31, 8 p.m.

PHILATELIC CLUB, Eugene Richardson
Meet 2nd & 4th Mondays, 7 p.m.

RADIO CLUB, Andy Dolak
Meet last Thursdays, 7:30 p.m. Radio code class meets Wednesdays, 7:30 p.m. NRC's station is W6VPZ.

SKEET CLUB, Walt Graves
Meet alternate Saturdays, April 4 & 18, at Rancho Angellis Range, Main & Broadway, 10 a.m.

SKI CLUB, Chuck Morse
Meet 4th Wednesdays, 7:30 p.m. Mammoth trip this month.

SKINDIVING (days), Ralph Gonzales
Meet 3rd Mondays, 7:30 p.m. Catalina trip April 12.

SKINDIVING (nights), Lillian Kemble
Meet 3rd Wednesdays, 1 p.m.

SPORTS CAR CLUB, Jack Kirkpatrick
Meet 2nd Thursdays, 7:30 p.m.

SQUARE DANCING, George Sanborn
Beginners' class at Henry Clay Jr. Hi Fridays, 8-11 p.m.

SURF FISHING, John Pawlicki
Meet 1st Tuesdays, 7:30 p.m. This month's guest: Ray Cannon.

TABLE TENNIS, Robert Burke

TENNIS, Ed Hummel
Meet 1st Mondays, 7:30 p.m. This month's guest: Bill Ackerman. Practice & instruction at El Camino Jr. College Saturdays, 10 a.m.

TOASTMASTERS 212 (days), John Walker
Meet at Western Avenue Country Club Thursdays, 6:30 p.m.

TOASTMASTERS 1398 (nights), Jay Rayner
Meet at Western Avenue Country Club Thursdays, 12:15 p.m.

TOASTMASTERS 2583 (days), Walt Brown
Meet at Del Mar Lanes Mondays, 6:15 p.m.

TRAVEL CLUB, Howard Cornelius
Meet 4th Mondays, 7:30 p.m.

FOR THE LADIES

BOWLING (days), Corinne Davis

BOWLING (nights), Mary Mimnaugh
Spring Tourney this month—schedules available April 1. Summer leagues forming.

GIRL SCOUTS, Dallas Vasquez
Mariners, Intermediates, Brownies. All Norcrafter girls welcome.

TOASTMISTRESS, Marge Gates
Meet in NRC Clubhouse Board Room 1st & 3rd Thursdays, 7 p.m.

BBSF Classified Ads

Items advertised in "For Sale" and "For Sale or Trade" categories are limited to a maximum of $50. Price must be stated.

Ads for agencies, commercial enterprises and private businesses are not accepted.

Deadline is noon Monday, nine days before publication.

FOR SALE

WASHER, 1956 Easy Spindrier, $35. FR 4-8036. A

WASHER, Westinghouse Laundromat, $45. FR 6-3992. A

MOWER, Craftsman 21" rotary-type, 2-hp engine, 8 mo old, $35. Box 1201. A

BED-DIVAN, tan & brown tweed, $30. DA 3-0119. A

PICTURE FRAMES, 3, natural oak, 14½"x18", $5. GR 7-1539. A

BABY EQUIPMENT, nite lite, pink & blue elephant-shape; bottle holder, rubber beanbag-type; accessory jars, w/pink tray; $2.25. Box 1207. A

WASHER, Kenmore automatic, 5 yr old, $40. PL 7-6973. A

MOTOR, GE ¾-hp, 110V, $20. Box 1202.

RECORD PLAYER, Columbia 360 3-speed 2-speaker table model, mahogany, w/ jewel styli & 45-rpm spindle, $40. FR 5-3936. A

SOFA, Duncan Fyfe, $30. FR 5-9648. A

FILM, 9 100' rolls, Kodachrome 16-mm, dated December 1958, $35. FA 8-2878.

SKI BOOTS, man's size 10, $7.50. OS 5-0838. A

CHEST-ON-CHEST, maple, $50. FR 2-3914.

FURNITURE, bed frame, double-size, mahogany, $3; table, 60"x36", grey & chrome, w/leaf, $30. DA 4-6748. A

BICYCLE, $20. DA 9-3226. A

SOFA, green, w/matching chair, $25. DA 4-5824. A

BOWLING SHOES, Brunswick size 9M, tan, $5. DA 9-1019. A

BABY BOTTLE BAG, red, insulated, waterproof compartment, $1.50. FR 9-9616. A

PLAY GYM, 2 swings, glider, trapeze, $16. FR 9-2659. A

PATIO BELL, brass, 6", $6. OS 5-9740.

BOWLING BALL, Brunswick Fireball 13-lb, $8. OS 6-4652. A

TV SET, Emerson 17" table model, mahogany, w/swivel table, $50. PL 5-5896.

FOR SALE

KITCHEN CABINET, white enameled metal, 60"x24"x12", $10. OR 8-1737. A

RADIO, short-wave, mobile unit, $50. Box 1203. A

OCEAN SPINNING OUTFIT, reel, Ru-Pacific; mono filament, 300-yd; rod, Fiberglas, $35. FR 8-1540. A

BICYCLE, girl's 26", w/balloon tires, $15. Box 1204. A

DINETTE SET, table, bronze-tone wood-grained formica top, 28"x40" w/7" leaf; gold & white upholstered chairs; $40. DA 6-4776. A

TIRE, 6.40x15 recap, white sidewall, w/ tube, $6. OR 2-8468. A

HOUSEHOLD FURNISHINGS, andirons & fireplace tools, $5; fern stand, antique, oak, $3; fern stand, antique, maple, $2; picture frame, antique, oak, $1.50; fruit jars, pint- & quart-size, 50¢ doz. OR 4-2623. A

MULTITESTER, Heathkit, 20,000 ohms/V, $20. PL 8-7746. A

BICYCLE, man's 26", English-type, $31.50. OR 7-2848. A

CRIB, Storkline maple, w/mattress, $15. FR 6-0693. A

TIRE, 6.00x16 6-ply, w/tube & 6-hole Chevrolet wheel, $10. Box 1205. A

RADIO, Philco 6-tube portable, w/batteries, $7.50. OS 5-4578 before 4 p.m.

GOLF CLUBS, Spaulding irons 4-9, w/ bag & folding cart, $37.50. FR 5-8778.

CAMERA EQUIPMENT, slide projector, TDC 35-mm; screen, beaded-type; $50. OR 4-6076. A

WANTED TO BUY

CAMERA EQUIPMENT, 8-mm; cartoon films; editor & splicer, BAIA or equivalent. Box 1206. B

PIANO, baby grand. PL 8-7746. B

RADIO EQUIPMENT, 1928 or older; radio & wireless sets, parts, horns, tubes, books & catalogs. OS 6-2076. B

TRAILER, 1-wheel, 3'x3½', AX 4-4768. B

MUSIC CENTER, console, phono, radio, prefer w/FM band. DA 6-5558. B

PERSONALS

THANK YOU to all of Wally Drusch's friends for their kindness and generosity. MRS. GEORGIA DRUSCH & FAMILY. L

FOR SALE OR TRADE

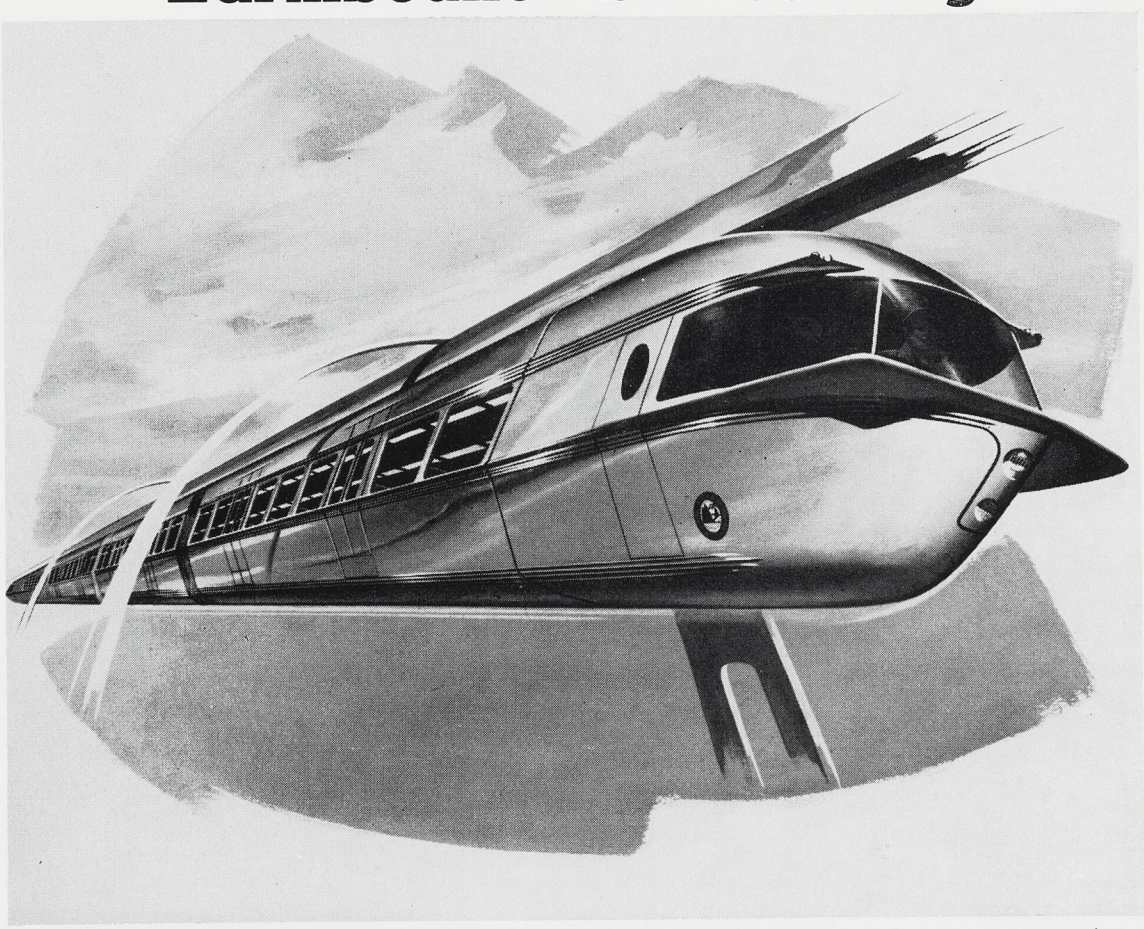
JUKE BOX, $35 or trade for 2-wheel utility trailer. DA 3-0113. M

T-38 Talon Supersonic Trainer

Northrop-Norair News

Issued biweekly by Norair Division of Northrop Corporation • Wednesday, April 8, 1959

Earthbound—but Soaring



GLIMPSE OF THE FUTURE—This is the sleek Gyro-Glide monorail system proposed initially by Northrop-Norair for the Seattle Century 21 Exposition. It is also designed to serve community-wide rapid transit needs. Incorporating aircraft-type design, a unique propulsion system and gyroscopic stabilization, it combines the excitement of advanced design with a practical method for low-cost transportation. The propulsion units at front and rear are detachable. Gyro-Glide requires no continuous trolley wire or powered rail. It picks up power while speeding along a short length of powered rail at each of the "feeder stations" spaced evenly along its route. Discussions are under way with Los Angeles, San Francisco and New Orleans officials.

COMPANY BIDS ON MONORAIL

GYRO-GLIDE PROPOSED FOR SEATTLE

Los Angeles area people got a startling insight into the modern future last week when write-ups and photos on the Company's 150-mph Monorail design appeared in the metropolitan press.

Russ Bowditch, director, Customer Relations Subcontracts and Associated Projects, has already placed Norair's Gyro-Glide transit system concept before city officials of Seattle and Los Angeles. Preliminary discussions have been under way with the San Francisco bay area Rapid Transit System, and with the city of New Orleans. Full-scale presentations are scheduled for these cities in the immediate future.

Los Angeles presentation was before the City Traffic Commission.

Following the presentation, S. S. Taylor, general manager of the Traffic Department, said the design "is the best we have seen so far."

Seattle presentations are being made in a series of meetings with officials of the Seattle Transit System, Century 21 Exposition, the Seattle Chamber of Commerce and the Central Association of Seattle.

The exposition begins in 1961.

For Seattle the system would transport up to 5000 persons an

(See MONORAIL, Page 2)

Northrop to Show Wares At Las Vegas

Displays are being built at Norair for the first World Congress of Flight, in which Northrop Corporation and all Divisions will play a prominent role.

Page Communications Engineers, due to become the newest

(See LAS VEGAS, Page 2)

ADDRESS OK?

Personnel asks Norcrafters that they be notified of any changes in home address, phone or marital status.

Phone numbers and addresses are maintained so that Norcrafters may be contacted promptly in case of emergencies and to insure prompt delivery of Company-routed mail, including U. S. Savings Bonds. This information also insures current addresses on withholding statements.

Personnel Record Change Notice, Form 59-142, or a memo to Personnel will accomplish the change. Changes in income tax exemptions are made by sending Withholding Exemption Certificate, Form 39-266, to Payroll.

SM School Started at Cape by ATC

The USAF has established the first operations and advanced training school for intercontinental guided missiles at Cape Canaveral, Florida. Air Force Strategic Air Command missile technicians under the jurisdiction of the Air Training Command will be trained in launch techniques on the Norair Snark SM-62.

The school will be operated by

(See ATC SCHOOL, Page 2)

NORTHROP–NORAIR

NEWS BRIEFS

BATTING AVERAGE, 1000 PER CENT—Outstanding record of service has been written by the Northrop-Norair flight section aircraft at Cape Canaveral in support of the Snark program. Stated George Douglas, vice-president, Engineering, "The flight section people and their Scorpion airplanes have supported Snark tests from the Cape for seven years. They have made 3006 flights with the aircraft stationed at Patrick. Missions ranged from 15 minutes to four hours. They flew their escort airplanes from deck altitude to the stratosphere. Not once during the program did this group hold up a test. And they had no accidents . . . A remarkable record. On behalf of the entire Norair Division, I extend congratulations to all personnel who have made this record possible." . . . Patrick Scorpions flew their last Snark escort last week. The program airplanes, an "A" (returned earlier) and two "Bs" go back to the Air Force as the Snark enters more advanced and highly sophisticated phases of test.

NUMERICAL CONTROL—J. Grant Macdonnell, Norair assistant treasurer, and Bernard Gaiennie, administrator, Manufacturing Research and Development, participated in the recent three-day "Numerical Control in Industry" conference at Lake Arrowhead Sponsors were the University of California at Los Angeles and Purdue University. On the first-day panel, "Management Aspects on Numerical Control," Mr. Macdonnell spoke, relating the topic to finance and economics; Mr. Gaiennie, who is recognized as a leader in bringing numerical control machines from Air Force to industry, spoke on production applications . . . Mr. Gaiennie also participated in the second-day panel discussion on manufacturing and took part in the final summation as well . . . Lt. General C. S. Irvine, deputy chief of staff, Materiel, Headquarters USAF, in the keynote address, "Numerical Control and Its Place in Industry," paid tribute to Northrop-Norair's supplier symposium as a management "communications first," illustrating the type of Corporate progressiveness and vision requisite to the acceptance of a new process such as numerical control.

HIGH STANDING—Report released by the Defense Department shows that Northrop Corporation stands twelfth in the nation's firms in value of experimental, research, and development work awarded in fiscal 1958. Total government R&D and experimental dollar-value awards were $3,707,283,000. Northrop received $118,164,000.

(See NEWS BRIEFS, Page 2)

Space Study Colloquium At Norair

Five high-caliber papers dealing with various facets of astronautics were presented at the recent Fifth Lunar Planetary Exploration Colloquium, hosted by Northrop-Norair.

George Douglas, vice-president, Engineering, welcomed to the Product Display Building the more than 150 attendees, many of whom are prominent space-age authorities from industry, education and the services. Norm Petersen, chief, Astrosystems and Research, chaired the morning session. See photos on Page 3.

Setting the colloquium pace was the paper presented by Dr. Harold C. Urey, University of

(See COLLOQUIUM, Page 2)

TAYLOR NAMED CHAIRMAN FOR RESEARCH MEET

Jim Taylor, chief, Weapon Systems Analysis, has been named as meeting chairman for the 16th national meeting of Operations Research Society of America. The appointment was made by the society's council for their semiannual symposium scheduled for November at Pasadena's Huntington-Sheraton Hotel.

Operations Research Society is an international organization whose membership is composed of those at the professional level who conduct research on man-, machine- and materiel-system op-

(See TAYLOR, Page 2)

Six PACE Seminars to Be Staged by Norair

The first in a series of six seminars on PACE being presented for members of the T-38 supplier team was held last week in the Plant Four conference room.

"The PACE seminar series was scheduled in answer to the many requests received from American and Canadian firms," stated Bob Lloyd, vice-president, Manufacturing. "The entire technique of this important management tool for low-cost production is being presented in order that interested companies will have proper information to assess their own organizations for similar installations."

The seminars are being chairmanned by D. N. Petersen, chief, Manufacturing Methods Engineering.

Fifteen companies, in addition to Air Force personnel, attended the first seminar, with representatives being sent from as far east as Ohio and as close by as Torrance. Advance registrations being handled through Materiel section, J. W. Hinchliffe, direc-

(See PACE, Page 2)

M-C Club New Prexy Takes Gavel

The Northrop-Norair Management Club met at Rodger Young auditorium Friday evening to install newly elected officers for 1959.

Elmer Noonan, new president, was welcomed to the Club's high est position and presented with the traditional gavel badge of office by outgoing president Charlie Davis.

Other new officers for 1959

(See NEW PREXY, Page 2)

NEWS BRIEFS

(Continued from Page 1)

General Electric heads the list with $302,045,000 . . . Recent R&D award in this category to Norair was for $193,839 for design and development of high quality castings using permanent molds and centrifugal force.

HIGH-LEVEL SALES CONFERENCE — Northrop-Norair Vice-president and General Manager Dick Nolan conducted a sales communications conference last week. Attending were Division and district office officials whose duties bring them into customer contact. "Purpose of this conference," stated Mr. Nolan, "was (1) a discussion of all Company projects presently under way and (2) a review of proper communications channels with the various customer agencies." . . . W. W. Millikan, Norair Washington representative; L. H. Coates, assistant secretary and Dayton representative; Doug Hamilton, Colorado Springs and Omaha offices; and Arvid Olson, manager, San Antonio district office, outlined structure and assignments of customer functional organizations.

BRIGADIER GENERAL MILLIKAN—W. W. Millikan, Norair representative, Eastern District office, and colonel and commander of the District Air National Guard's 113th Tactical Fighter Wing, has been promoted to brigadier general. In photo, Mrs. Millikan and Major General William H. Adendroth, District National Guard commander, bestow "Millie's" shoulder stars. "Millie" is a triple ace from World War Two. He has 2000 jet hours including time in the Scorpion and the F-102 Delta Dagger.

Service-sponsored Spec Talks Draw Industry Reps as Northrop-Norair Hosts

A three-day specifications conference, sponsored by WADC and BuAer, was hosted last month by Norair.

Cross-sectioning airframe industry and electrical connector manufacturers brought representation of over 30 to review and discuss proposed service specifications for miniature electrical connectors.

Meeting was chaired by Galen Ely, WADC Electronics Laboratory. Conferees were greeted by W. E. Woolwine, chief design engineer, and Norair coordinator and representative in the discussions was Paul Greene, Airborne Electronics.

The proposed specifications under review are for two high-temperature (392° F ambient) connectors, round and rack-and-panel, and crimp-type contacts for these connectors. Conference comments are now being evaluated by WADC and BuAer.

Taylor—

(Continued from Page 1)

erations. The society publishes the bimonthly journal *Operations Research*.

Because of the impact of operations research activity on total national defense policies and planning, it is anticipated by Mr. Taylor that prominent personalities will participate in the symposium. To assist with the planning phase, he has named John Welsh, Systems Development Corporation, Jim Gehrig, Norair Strategic Systems, and Theodore Bullockus, Planning Research Corporation, as Program, Arrangements and Publicity chairmen, respectively.

JOHNSON VOTED MEMBER OF TOP ASSE COUNCIL

Lee B. Johnson, chief safety engineer, has been elected to a three-year term as member-at-large of the executive committee, American Society of Safety Engineers.

ASSE, a professional organization of safety engineers, is dedicated to upholding the standards of the profession and using its abilities for human service in the nation, the state and the community. With 68 chapters in the United States, Hawaii and Canada, the society has a membership of more than 7200.

Mr. Johnson has been in safety work since 1930, when he joined the U. S. Forest Service as an administrative assistant in fire prevention. After 10 years with the Forest Service, during which time he held assignments as a safety officer and a public relations officer, in 1940 he accepted his present position with Norair.

An ASSE member since 1947, Mr. Johnson is a past general chairman of the Los Angeles chapter. In 1950 the chapter awarded him its J. Wesley Gebb Award for his development of magnesium fire prevention techniques.

Pace—

(Continued from Page 1)

tor, indicated that over 200 manufacturers and specialists will attend the series.

Last week's seminar was concluded by a panel discussion of key Norair officials: Max Fayrweather, superintendent, Missile Manufacturing; W. L. Aldrich, assistant director, Industrial Relations; V. O. Smith, assistant to vice-president, Engineering; R. S. Mattson, general supervisor, Production Planning and Tool Design; and Grant Macdonnell, assistant treasurer, Finance.

The next seminar is scheduled for April 8 and 9. Seminars will continue through the coming months until all six have been presented.

Monorail—

(Continued from Page 1)

hour from a downtown site to the exposition grounds a mile away.

The system is designed for expansion to a city or area-wide rapid transit system capable of transporting both passengers and freight at low cost.

Buildings, rails and supports for the proposed mile-long Century 21 Exposition system were designed by J. H. Pomeroy and Company, Inc., prominent West Coast architectural and construction firm, in coordination with Norair.

Gyro-Glide cars and propulsion units, in case of a contract, will be built at the Norair Division.

Norcrafters who have key roles in Gyro-Glide, in addition to Mr. Bowditch, are Jack Hebard, Customer Relations western representative for Subcontracts and Associated Projects, Paul Von Essen, project engineer, and Engineering designers John Hill, Frank Armbruster, Fred Burdette, L. A. Kent, John Wolff and T. A. Robinson. The project stems from Engineering Associated Projects office, George Nichols, chief.

In a city- or area-wide transit system, the unique propulsion unit will allow Gyro-Glide trains to operate four miles out of every five without an external power source.

The plan for Seattle calls for two trains using two to four cars apiece, depending on the passenger traffic.

Each train would have a power-pod propulsion unit at each end, eliminating the necessity for turn-around loops.

Each power pod carries a combination generator, motor and gyroscope.

The 1000-pound gyroscopic flywheel in this unit picks up initial power from a rail at a feeder station.

ATC School-

(Continued from Page 1)

Norair with 35 missile system instructors under the direction of Ralph Quinn, formerly in charge of training activities for Norair at Amarillo Air Force Base.

Eighty students under the command of Captain Richard Connor, Detachment No. 2 SM62-2, Amarillo AFB, will make up the first contingent. Students are men who have completed missile training in the Norair-conducted guided missile school at that base.

Graduates from the new Cape Canaveral School will be assigned to the 556th Strategic Missile Squadron.

KAZARIAN, LOVE APPLY NEW COMPUTER TECHNIQUE TO T-38

A significant contribution to Northrop engineering effort has been made by Dan Kazarian and John Love, Controls Systems Branch, in their application of a recently developed digital analysis technique to the design of the T-38 and N-156 stability augmenter systems.

According to J. E. Crawford, chief, Airframe and Material Design, it is estimated that use of the technique to supplement normal computer analysis will reduce the fighter SAS development program from 18 months to less than twelve.

The new technique expands the usual function of Northrop's IBM digital computers to determine essential information required in the synthesis of complex automatic flight control equipment such as stability augmenters and autopilots. Input to the IBM computer is a huge volume of aerodynamic numerical parameters for the aircraft and the output is design information in the form of tables or curves.

Before application of this new computer technique at Northrop, this particular portion of the system design was done typically by top-level flight control engineers. The mathematical process was extremely tedious requiring months of effort.

With the digital process, desired results can be produced by a single engineer in a matter of weeks.

Las Vegas—

(Continued from Page 1)

member of the Northrop family pending action of California Commissioner of Corporations, will also take part. (See *Northrop-Norair News*, February 25, 1959.)

To be held in Las Vegas, April 12-19, the Congress will for the first time in history bring together in one setting all of the known flight progress of mankind.

Corporate team at the Congress, headed by Whitley C. Collins, will include Senior Vice-presidents Robert R. Miller and Thomas V. Jones; and Division Managers and Vice-presidents Dick Nolan, Northrop-Norair, Kip Tuttle, Radioplane, Dr. William Ballhaus, Nortronics, and Gil Nettleton, Northrop-International.

Highlight of the Congress will be the NATO Anniversary Banquet. Prince Bernhard of the Netherlands will be an honored guest and principal speaker.

Seventy-seven nations have been invited by letter of transmittal from Secretary of State John Foster Dulles. Invitations were issued by Nevada Governor Grant Sawyer.

Northrop Corporation has taken exhibit space in the Convention Center and at the Stadium area.

Displayed at the center will be models and presentations of Corporate products, including a large scale version of the Talon. Actual hardware will be at the Stadium. Radioplane drones, Norair and Nortronics Hawk and launcher, and Nortronics Datico are among the products scheduled for view.

Northrop spaces will be staffed by specially trained representatives from the Divisions, with coordination of displays and representatives under the jurisdiction of Bob Rolfe, Corporate Customer Relations.

Northrop headquarters will be established in the Riviera Hotel which is near the Stadium.

Presenting technical papers at the Congress are T. E. Beresford, Radioplane, "State of the Art of Space Recovery"; Bob Gray, Nortronics, "Practical Universal Automatic Test Equipment"; and Fred Stevens, Nortronics, "Accurate Automatic Guidance".

Colloquium-

(Continued from Page 1)

California, Institute of Technology and Engineering, La Jolla. Dr. Urey, a much sought-after speaker who has authored numerous articles and books on cosmogony and planetary evolution, spoke on "The Escape of Planetary Atmospheres."

Four more informed papers on exploration of the moon and the inner planets were heard and then discussed by the attending scientists. In addition to Dr. Urey, the speakers were Warren H. Straley, Army Ballistics Missile Agency, Huntsville, Alabama; S. M. Dole, Rand Corporation, Santa Monica; Dr. Edward Goldberg, Scripps Institute of Oceanography, La Jolla; and Dr. J. A. Edson, assistant to director of Research and Development, Department of the Army.

Of special interest was an up-to-the-minute movie on the Pioneer IV launch, "Of Time and Space," shown by courtesy of Jet Propulsion Laboratory. JPL's Dr. Al Hibbs sequeled the film with a commentary on the valuable data obtained by the space-probe before becoming the newest solar satellite.

Colloquium was coordinated throughout by Paul Holliday, Astrosystems and Research.

New Prexy—

(Continued from Page 1)

are Vice-president George Sterling, Field Service; Vice-president, nights, D. J. Wright, Nortronics; Secretary Leo Richman, Administrative Services; Treasurer Charlie Eyres, Engineering; Sergeant at Arms E. C. Hummel, Engineering.

William Larrabee, Northrop Corporation vice-president, Legal, featured speaker of the evening, spoke on present-day industrial relations aspects in relation to Company's continuous growth and increasing potential. He traced industry changes over the past decades and discussed personnel benefit concepts, comparing the modern advances with those of the twenties and thirties. Mr. Larrabee reviewed Northrop's variable reitrement plan funding wherein the retirement dollar is invested and put to work through security ownership in large American industries.

Northrop-Norair News

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PUBLIC RELATIONS

NORAIR DIVISION

CHARLES BARR, Director

CHARLES BRADFORD, Editor

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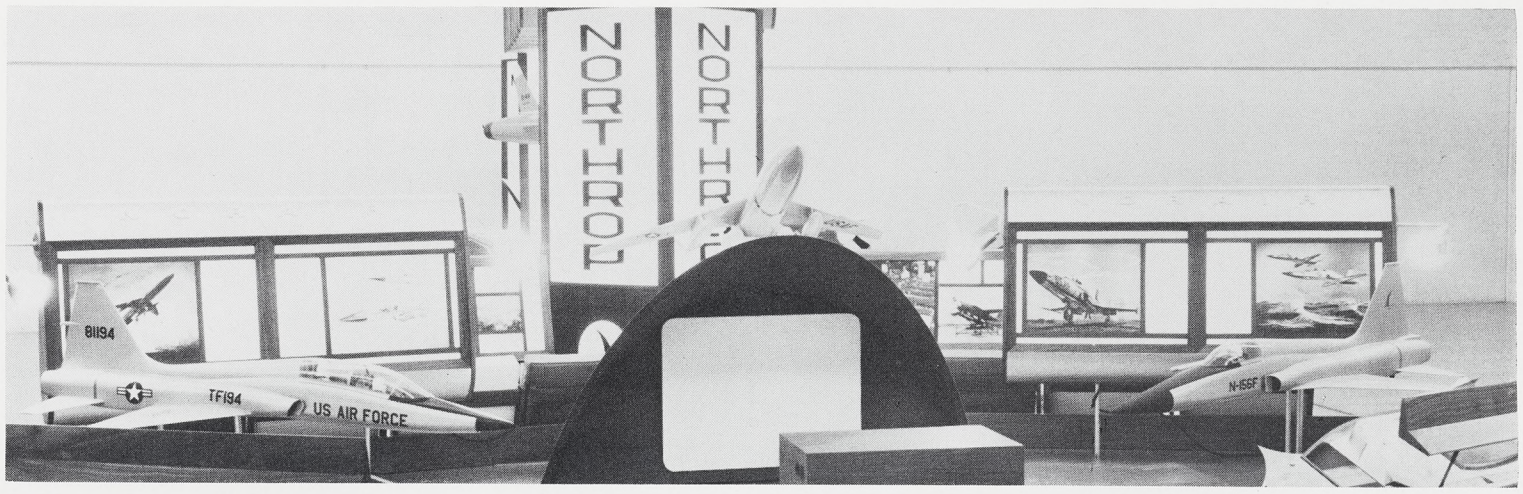
CONGRESS DISPLAYS—Being readied at Norair Product Display Building are Corporate displays for upcoming First World Congress of Flight at Las Vegas, April 12-19. All Divisions, including Page Communications Engineers, will participate. Displays and Congress activities are being coordinated by Bob Rolfe, Corporate Customer Relations, Beverly Hills, Calif.



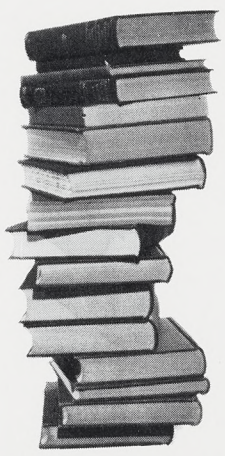
AT THE STICK — Mike Stary, Hawthorne High Science Fair winner, checks T-38 controls at the control test stand in the Environmental Laboratory. Observing his flying techniques is another award winner, Dan McCammon, and Norcrafter Ray Daniel. Talon test control stand is used to measure the performance of the T-38's complete control system under simulated flight conditions.

News Pictorial

IN THE FAMILY — Warren Straley, Army Ballistics Missile Agency, Huntsville, Alabama, who assayed "Mars or Venus?" at the Fifth Lunar Planetary Exploration Colloquium (see story, Page 1), discusses this moot topic with his sister, Norcrafter Bobbie Noble, and Norm Petersen, chief, Norair Astrosystems and Research.

COSMIC CONFAB—Two of the nation's top cosmogonical and astronomical authorities exchange reflections before the colloquium —Dinsmore Alter, director emeritus, Griffith Observatory, and Dr. Harold C. Urey, University of California, Institute of Technology and Engineering, La Jolla.

Textbooks in the Making by Norair Scientist-authors



WRITES BY NIGHTS — Dr. Leonard Pode, Airborne Electronic Systems, is currently working on three afterhours textbooks. "An Introduction to General Purpose DC Analog Computers" is slated for publication next year. Two years away are books on "Linear Dynamic Analysis" and "Analysis Servomechanisms."

JOINT EFFORT — Dr. Clem Savant and Carl Solloway, both of Airborne Electronic Systems, work on textbook manuscript at Dr. Savant's home—with coffeepot at ready. Brother Chuck Savant, Controls System Design, is another coauthor of "Principles of Inertial Navigation," set for publication in early 1960. Dr. Savant's first published book, "Basic Feedback Control System Design," came out a year ago and is already used in over 60 universities and colleges. His second, "Servomechanism Practice, 2nd Edition," is due late this year.

BBSF Classified Ads

Items advertised in "For Sale" and "For Sale or Trade" categories are limited to a maximum of $50. Price must be stated.

Ads for agencies, commercial enterprises and private businesses are not accepted.

Deadline is noon Monday, nine days before publication.

FOR SALE

GAS LOGS, $25. GE 1-4233. A

REFRIGERATOR, $40. DA 4-5543. A

REFRIGERATOR, Frigidaire 6 cu ft, $30. FR 9-5144. A

HOUSE FURNISHINGS, garage door, redwood overhead-type, single, w/hardware, $15; porch railing, 13', wrought iron, $20. OS 6-9637. A

SHUTTERS, pr, 18"x56", $5. GR 7-1539.

WEDDING GOWN, size 12, floor-length w/chapel train, lace & tulle w/seed pearls on bodice, $50. OS 6-1288. A

SCOOTER, 1947 Powell 7.5-hp, new brakes, clutch & tires, $25. DA 6-3282. A

RUGS, 2 matching wool, 9'x12', 6'x6', $45. OS 5-5453. A

HEATER, GE automatic, $10. Box 1307.

TELESCOPE, 3" refractor, 3X w/scope sight, $50. OS 6-3448. A

CAM, 1955-59 Ford, ¾-race, $40. FR 4-2915. A

CLUB CHAIR, red frieze, converts to bed, $20. DA 9-1276. A

TYPEWRITER, standard, $10. Box 1304. A

ENCYCLOPEDIAS, Collier's 10-vol set, $15. GA 7-3157. A

PATIO FURNITURE, aluminum, w/flowered plastic box pads; chaise lounges, 2; chairs, 2; cost $94; $50. DA 4-4597. A

REFRIGERATOR, GE 8 cu ft, $45. OS 6-9352. A

HEAT LAMP, California Dri-Aire, $35. FR 5-2983. A

CAMERA, Polaroid Land, w/lite meter, flash attachment, case & 3 close-up lenses, $50. LO 9-1804. A

DINING TABLE, oak, w/6 chairs, $50. PL 3-8827. A

HEATER, Fan-Glo electric, $13. FR 6-2536.

CLARINET, French-made wooden, overhauled & sterilized, $50. FR 2-0502. A

MODEL AIRPLANE, radio-controlled, w/engine, transmitter & receiver, $50. VE 8-6357. A

BICYCLE, girl's 24", new paint, $18. FA 8-3306. A

HI-FI EQUIPMENT, speaker & enclosure, $20; amplifier, Heathkit, $25. NE 2-6738.

RADIO, RCA FM-AM table model, 2-speaker, white, $50. EX 8-4032. A

SPEAKER, University Tiny Mite, blonde enclosure, $50. PL 6-1129. A

LAMP, TV-type, covered-wagon-style, $12.50. PL 5-6610. A

TV SET, Packard-Bell 21" console, mahogany, $50. OS 5-0948. A

TYPEWRITER, Underwood noiseless, $25. AX 3-0036. A

TOOL CHEST, Gerstner 052, oak, $45. OS 6-9521. A

FURNITURE, bed frame, double-size, mahogany, $3; table, 60"x36", chrome & grey formica w/leaf, $30. DA 4-6748.

GUNS, 2; revolver, H&R .22 7-shot, $7; rifle, J. C. Higgins (Mossberg) .22, bolt-action 21-shot, $7.50. Box 1302. A

JEWELRYMAKING EQUIPMENT, findings, approx. 100; rhinestones, various colors; pearls; finished pieces, 30; $50. FR 9-9616. A

BABY BOTTLE BAG, red, insulated, waterproof compartment, $1.50. Box 1303. A

SHOTGUN, Winchester 97 12-gage, 30" barrel, full choke, $45. FA 8-5365. A

WASHER, Kenmore automatic, 5 yr old, $40. PL 7-6973. A

GIRL SCOUT UNIFORM, size 8, $5. FR 2-8019. A

REFRIGERATOR, Coldspot 7.7 cu ft, $50. FR 5-5838. A

TAPE RECORDER, Eicor, w/tapes, $50. FR 5-2959. A

RANGE, gas, w/timer & lite, $30. FR 5-0867. A

VANITY, Sheritan, mahogany, $50. FR 5-0721. A

DINING TABLE, Duncan Phyfe, mahogany, 40"x60", w/2 18" leaves & custom-made pads, $50. FA 8-6839. A

CAMERA EQUIPMENT, enlarger, Federal 269, single-condenser; print dryer, Arkay E10; filters, Varigam Speed-EZ-EL; $30. FA 1-2284. A

FURNITURE, divan, chair, innerspring construction, $40. EX 7-1954. A

CORNER TABLE, mahogany, $10. FR 6-3178. A

MAILBOX, rural-type, $2. DA 7-9084. A

APPLIANCES, deep fryer, $4.50; clock, ship-type electric, $10. PL 5-8650. A

WANTED TO BUY

ENGINE, V8-60. FR 4-2915. B

DESK. Box 1303. B

OUTBOARD ENGINE, 3.5- to 7.5-hp. FR 9-8571. B

FUR COLLAR, Peter Pan-style, silverblu mink or black fox. Box 1306. B

WANTED TO BUY

SUN LAMP. Box 1305. B

BABY FURNITURE, playpen, w/mesh sides; crib, combination-type; hi chair, folding-type. OR 4-7891. B

BICYCLE, girl's 26". FR 9-9616. B

TUBE, w/8" wheel. FR 9-4653. B

FREEZER. OS 6-0432. B

BICYCLE, 26" liteweight racer-type. Box 1301. B

FOR TRADE

CAMERAS, 2, Brownie single-reflex, Kodak 16-mm movie-type, trade for typewriter. EX 3-7967. C

ENCYCLOPEDIAS, 1959 World Book, trade for King-O-Lawn power mower, prefer 21". PL 5-6610. C

RACING CAR, ¼-midget-type, trade for outboard engine, min. 25-hp. OS 6-6779.

TRAILER, aluminum teardrop-type, w/butane stove & ice box, sleeps 2 or 3, trade for motorcycle, small sailboat or paint compressor & gun. FR 4-9809. C

FREE (to be given away)

TENT, 9'x9'. GE 1-4233. D

CHILD CARE OFFERED

CHILD CARE, hot meal, 18-mo-old children & older, licensed, near Northrop. OS 5-7088. G

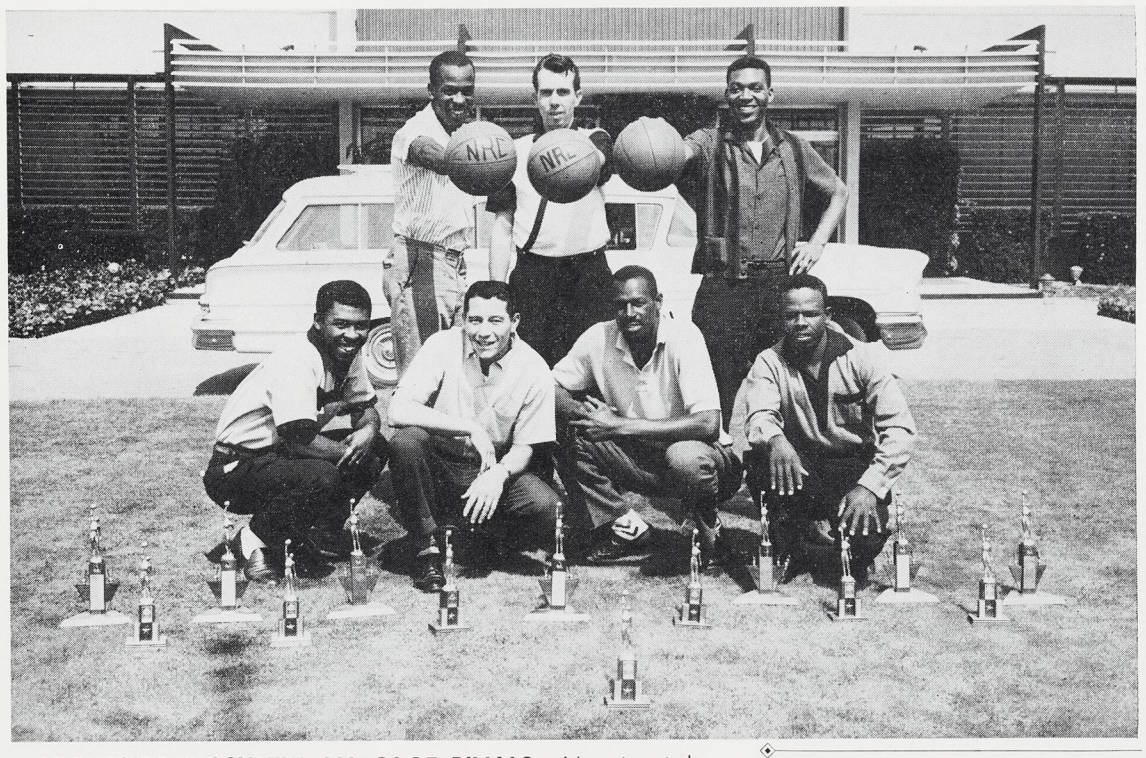
FOR SALE OR TRADE

BENCH SANDER, w/motor, $35 or trade. OR 1-6369. M

AUSTIN, 1941 2-dr, 35 mpg, w/sealed-beam headlites, turn signals & new clutch, $50 or trade for hi-fi equipment. OS 5-5813. M

SURFBOARD, Velzy Fiberglas, $45 or trade for English racer-type bicycle. FR 2-3544. M

RADIO, portable, $20 or trade as part payment on table saw. PL 2-9597. M



NIGHTSIDERS SCUTTLE ALL CAGE RIVALS—Norair night-shift basketballers clicked for a clean sweep in this season's NRC competition. From left: kneeling, Wendell MacFadden, George Martinez, Ed Rogers and Jim Bellinger; standing, Charles Scott, Manager Bob Moncrief and Don Clark. They toppled day shift's Fluid Dynamics five 46 to 45 in the last seconds of the final playoff tilt. Their victory skein remained unbroken as they wove nothing but triumphs into the NRC postseason tourney picture. This mastery, coupled with the championship of the Los Angeles County industrial league, enables the quintet to enter the So. California Industrial Tourney undefeated.

Softball Slides into View With NRC Warmup Scheds

For some, spring means the swallows of Capistrano and the rebirth of deciduous trees. To others, spring means rough horsehide and sod-churning cleats . . . a white pill sailing under the arcs . . . the shifty-eyed pitcher who can snap the ball to first to catch the imprudent runner . . . and the hoarse yell "Play ball!"

In line with the latter group, NRC softball is "warming up in the bullpen" for the 1959 season. Team managers had their first gettogether yesterday. Roster deadline for practice schedule has been set for this Monday, April 13.

Warmup innings start April 20, with the American League slated for Sportsman's Park on Mondays and the National League for Hawthorne Park on Tuesdays.

According to Commissioner Ken Klier, a special slow-pitch 16-inch softball league is being sponsored by the NRC for Wednesday evenings. This circuit is aimed toward all ages, all levels of ability.

The tender gender will be lobbing practice pitches next week. The gals are slotted for the Los Angeles City Women's League with for-real play beginning in the first part of June. In the meantime, getting-into-shape games (no cracks, please) start 6 p.m. this Monday, April 13, at St. Andrew's Playground.

Further information on all diamond activities can be secured by contacting Don Greco, Personnel Activities, Plant One, extension 2784.

Two Toastmaster Groups Install New Helmsmen

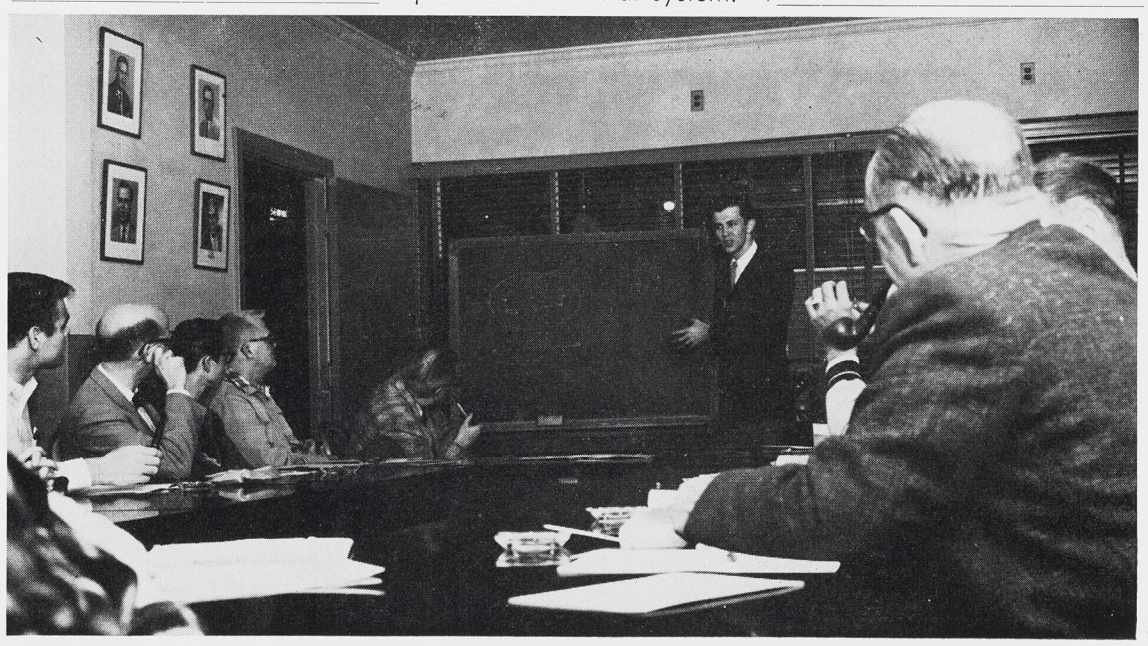
Two of the Northrop-Norair Toastmaster groups recently installed newly elected officer slates.

The first installation, at the Club Alondra, seated the just-voted-in Toastmasters 2583 helmsmen: Rudy Pummer, president; Dick Gibbs, educational vice-president; Andy Hooton, administrative vice-president; Ted Kelly, secretary; Mike Michaels, treasurer; Jim Murphy, sergeant at arms; and Bill Willis, publicity director. The *News* of March 11 erroneously listed these officers as piloting Toastmasters 1398.

However, the actual 1398 functionaries who were installed last Saturday, also at the Club Alondra, are Ray Brady, president; Jay Rayner, educational vice-president; Joe O'Rendy, administrative vice-president; Sam Vaughan, secretary; Richard Lamour, sergeant at arms; and Edward Williams, publicity director.

Installing officer for the 1398 slate was Doug Johnson, administrative lieutenant governor of Toastmasters International District 50.

ASTRONOMICAL CURVE — Lecturer for the NRC Astronomy Club educational series, Bob Henryson, Griffith Observatory staff astronomer, explains elliptical eccentricity as applied to planetary masses. Next lecture in the last-Monday-of-the-month series is set for April 27. Topic is the outer planets of the solar system.



RIDES WANTED

7:00 a.m. — 3:45 p.m.

JEFFERSON & LA BREA, Los Angeles. M. L. Sorensen, ext. 1280. 2

YUKON & 111th ST., Lennox. Shirlee Fairchild, ext. 2667. 2

PIER & PROSPECT, Redondo Beach. Dottie Strawn, FR 9-7564. 2

OVERHILL & SLAUSON, Los Angeles. G. C. Goodenkauf, AX 3-4486. 2

IMPERIAL & LAKEWOOD BLVD., Downey. R. C. Greenlee, TO 1-1726. 2

LENNOX BLVD. & PRAIRIE, Lennox. Marcia Woodman, OR 2-6385. 2

CENTINELA & LA BREA, Inglewood. Matha Hicks, OR 1-9682. 2

PASS & COVINA RD. & VALLEY, La Puente. Leroy Dick, ED 6-8285. 2

7:30 a.m. — 4:15 p.m.

INGLEWOOD & 118th ST., Hawthorne. Murelene Biggs, OS 5-1624. 3

CALLE MAYOR & PACIFIC COAST HWY, Torrance. Bill Smothermon, FR 5-2959. 3

BEL AIR & SKYWOOD, Anaheim. W. A. Day, JA 7-4270. 3

8:00 a.m. — 4:45 p.m.

WESTERN & HWY 101, Harbor City. Evelyn Stephens, DA 6-7568. 5

SEPULVEDA & VENTURA BLVD., Sherman Oaks. Bob Wesel, ST 8-3104. 5

BROADWAY & INGLEWOOD AVE., Hawthorne. Maureen O'Malley, OS 6-6298. 5

GATES & INGLEWOOD AVE., Redondo Beach. Teddy Block, FR 9-0880. 5

WESTERN & 234th ST., Torrance. Georgia Stroub, DA 6-4075. 5

PIONEER & ROSECRANS, Norwalk. H. F. Shaw, UN 8-2858. 5

CENTRALIA & NORWALK BLVD., Artesia. Roy Greatwood, UN 5-4423. 5

ANZA & TORRANCE BLVD., Torrance. S. M. Freng, FR 4-2168. 5

AVIATION & MANHATTAN BEACH BLVD., Manhattan Beach. R. Johnson, FR 2-4860.

PIER & REDONDO BEACH BLVD., Redondo Beach. Gertrude Smith, ext. 455.

SANTA MONICA BLVD. & WESTERN, Hollywood. Harold Greer, HO 4-6094. 5

4:15 p.m. — 12:45 a.m.

HAWTHORNE BLVD. & SEPULVEDA, Torrance. Bernice Pope, DA 5-0545. 10

RIDES OFFERED

7:00 a.m. — 3:45 p.m.

IMPERIAL & LAKEWOOD BLVD., Downey. R. C. Greenlee, TO 1-1726. 12

PASS & COVINA RD. & VALLEY, La Puente. Leroy Dick, ED 6-8285. 12

7:30 a.m. — 4:15 p.m.

CALLE MAYOR & PACIFIC COAST HWY, Torrance. Bill Smothermon, FR 5-2959. 13

BEL AIR & SKYWOOD, Anaheim. W. A. Day, JA 7-4270. 13

CITRUS & SAN BERNARDINO FRWY, Covina. R. J. Hallowell, ED 2-4409. 13

8:00 a.m. — 4:45 p.m.

CENTRALIA & NORWALK BLVD., Artesia. Roy Greatwood, UN 5-4423. 15

ANZA & TORRANCE BLVD., Torrance. S. M. Freng, FR 4-2168. 15

EUCLID & ORANGETHORPE, Anaheim. E. W. Koenig, LE 4-2844. 15

PIONEER & ROSECRANS, Norwalk. H. F. Shaw, UN 8-2858. 15

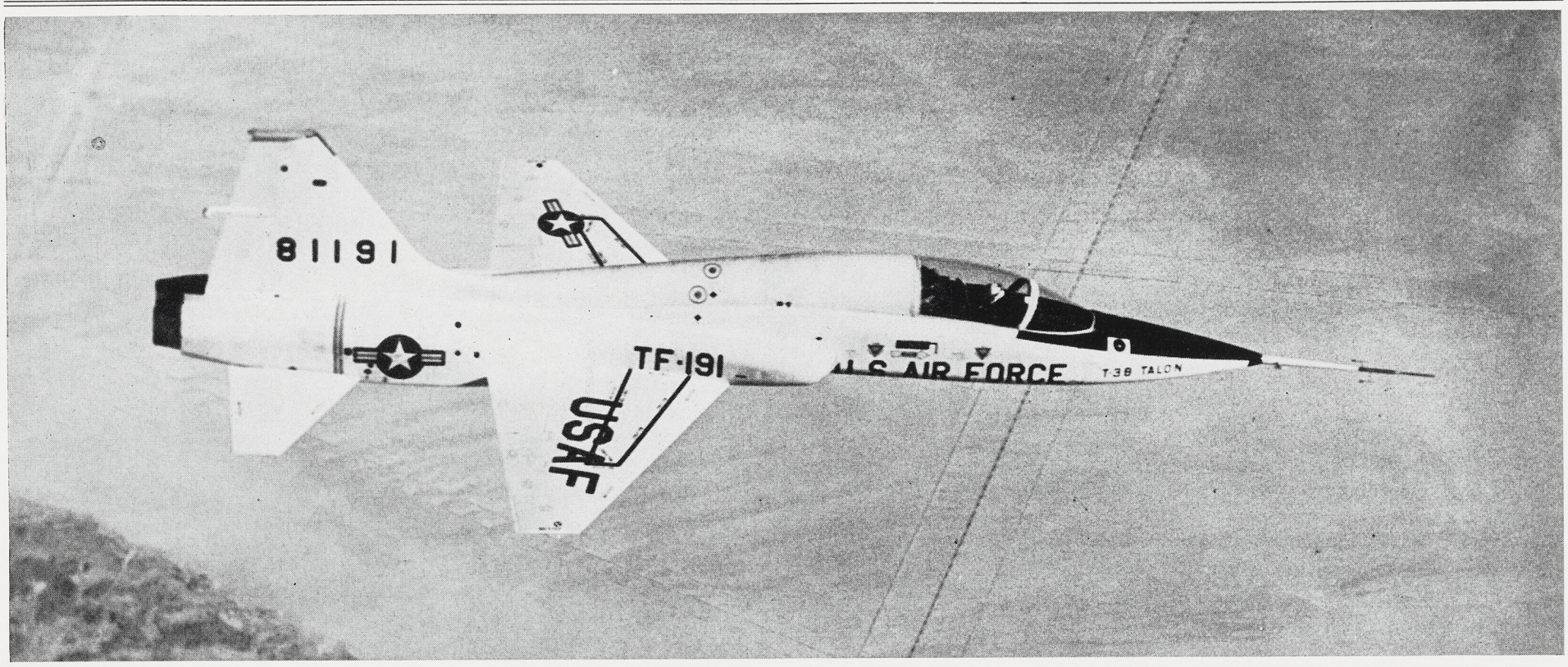
3:45 p.m. — 12:15 a.m.

GOULD & PROSPECT, Redondo Beach. F. J. Bandell, FR 6-3667. 16

T-38 Talon Supersonic Trainer

Northrop-Norair News

Issued biweekly by Norair Division of Northrop Corporation • Wednesday, April 22, 1959



FIRST FLIGHT—USAF-Northrop T-38 Talon tries her wings for the first time over Edwards AFB. Pilot Lew Nelson was at the controls. First flight lasted for 40 minutes. Lew broke the speed of sound with the Talon four days later. T-38 Talon is nation's first space-age trainer.

CONGRATULATIONS—Pilot Lew Nelson receives hearty congratulations from Northrop Corporation President Whitley C. Collins (shaking Lew's hand), George Douglas, Norair Engineering vice-president, and Dick Nolan, Corporate vice-president and Norair general manager.

NORTHROP–NORAIR

NEWS BRIEFS

TASK FORCE AND REORGANIZATION—First report on reorganizational cost reduction from recently consituted task force committee was presented to General Manager Nolan last week . . . Objective of group, chairmanned by Jack Mannion, assistant to the general manager, is to assess total Norair organization and recommend to management areas where streamlining of forces and assignments and additional modernization would be in best interests . . . Task force team members, aside from Chairman Mannion, are Vice-presidents Douglas and Lloyd, and Assistant Treasurer Grant Macdonnell . . . Stated Mr. Nolan, "Norair has made much progress in the field of cost reduction. But we must keep in trim, maintain a ready and efficient team . . . We intend always to set the pace in scientific achievement and low-cost operation. The industry is highly competitive in both fields. But Norair does not merely meet competition. Whatever kind. We make it."

SNARK FLIGHT—First firing of a combat Snark by SAC at the Cape 6 April was highly successful. Fired by the 556th, the missile

(See NEWS BRIEFS, Page 2)

TALON IN HIGH-GEAR FLIGHT TEST PROGRAM

GOES SUPERSONIC IN THIRD TEST HOP

First flight was at 11 a.m. Friday morning, April 10.

At *Norair News* press time 12 days later the Talon had flown four times. She had reached specified altitudes, exceeded the speed of sound, made life serious for her F-100 chase escort and utterly impossible for her T-33 escort.

Pilot Lew Nelson had reported only minor "squawks" and no significant malfunctions.

Stated Dick Nolan, Norair vice-president and

by AIREPORTER

general manager, who witnessed the first flight, "I think the T-38 will set a record as the busiest airplane at Edwards. This is the payoff for sound concept, careful design, thorough wind tunnel testing, fine support from the Air Force, and people on the job who know how."

Mr. Nolan had already issued an announcement congratulating all Norcrafters on the project and paying tribute to their skillful workmanship and fine teamwork.

The first flight of any airplane is dramatic and exciting business. With the T-38, this drama was heightened by the very uneventfulness that marked the event.

Jack Farley's boys, headed by Louie Weltz, foreman, and Crew Chiefs Frank Harrison, days, and Red Mullet, nights, had worked around the clock and on weekends getting the Talon ready.

"I wish we had two more days," said Louie, at desert daylight Friday morning, "but the schedule says today, and today it's going to be."

"Why two more days?"

"I don't know. Things would be prettier, I guess." He grinned, but he wasn't relaxed.

Frank Harrison and his crew were everywhere on the roped-off airplane.

The GE engine men were there. "This is a big day for us, too," they said.

Captain Swart Nelson, ARDC project test pilot for the T-38, stood by through the hours. He confided that he weighed 205 pounds against Lew's 150. "That airplane is versatile in more ways than one," he said. "It fits us both just fine."

Red Mullet, who has been on Northrop first flight tests beginning with N1M back in 1940, got up and came down to the hangar after working all night. So did many other night-shift men.

The DC-3 from Hawthorne arrived at sunup bringing a few last-minute parts and a supercargo headed by Mr. Collins, Mr. Miller, Mr. Jones and Mr. Nolan.

The Talon was rolled out of the giant hangar and into the sunshine at 8:55 a.m.

It was a beautiful day. No wind, clear.

The Talon waited in her gleaming white paint, a sinewy little aircraft, seemingly fastidious against the many Edwards supersonic and space giants—the F-106s, the X-15, and the great commercial transports now testing for certification.

You knew that she was a fine heartwarming little airplane. And you knew from her looks that size meant nothing except low cost—as every man in the Corporation is proud to say. Century-Series-type performance stood out all over her from her instrument boom to her perfectly proportioned tail, with her ladylike curves in between and all over.

The Edwards fuel truck came in. The mission was getting down to business.

Mr. Collins circulated easily and reassuringly among the men.

There would be a gentle touch on the shoulder and small conversational exchange.

"How's it going?"

"Fine, Mr. Collins. Fine."

"The airplane looks beautiful."

"It is beautiful."

And, "Have we got everything covered? News? Photos?"

"Everything is covered and then some."

"Is the weather right?"

"Weather is perfect."

And, "How about a cup of coffee, Mr. Collins? Strong stuff but good."

Busses arrived to ferry the people around to the south side of the field.

Jack Farley personally saw that there was room for everyone. Everyone included the hangar personnel, crew members, Air Force visitors, Public Relations and *Norair News* types, participating Company officials, and GE folk.

The desert at Edwards glared white in the late morning sun. The bus driver parked and everyone unloaded. Then the driver decided to move 1500 feet farther down the runway. The people obediently loaded in again and the move was made.

Marie Duke and Esther Schlotfeld, from the Norair facility Administration office, were the only two women on hand and kept the group from

(See TALON FLIGHT, Page 2)

NEWS BRIEFS

(Continued from Page 1)

demonstrated proof of the reliability sought by Norair's countdown and simulated flight programs for these final before-Presque Isle tests. (See News Briefs, 14 January 1959) . . . Stated **Milt Kuska, director, Flight Test Engineering,** "This fine flight demonstrated that SAC capability in checkout and launch has reached a high proficiency. I wish to congratulate Lt. Colonel Larry Johnson, 556th commander, and Major Glenn Sapp, director of this flight." . . . Stated **Max Fayrweather, superintendent, Missile Manufacturing,** "The reliability demonstrated by this first combat Snark launch is very gratifying and is the direct result of teamwork and combined efforts by all departments concerned. Engineering support and guidance, which spearheaded the project, was of utmost value. I feel that, through this success, we have added materially to the capability and stature of the SM-62 weapon system." . . . Stated **Bob Catlin, manager, Quality Control,** "The successful flight of the Snark is attributed to the combined efforts of Engineering, Manufacturing, Flight Test, and Quality Control and their counterparts from Nortronics Division. The result of this teamwork is Reliability!" . . . Norcrafters at the Cape are now readying for a series of equipment tests in a continuing improvement program on Snark weapon system . . . Colonel Richard Beck is now on station at Presque Isle.

ISO VISIT—Norair participated with Northrop Corporation in hosting top Air Force Information Service Officers from all major commands. Headed by Brigadier General B. E. Lebailly, deputy director, Information Services, Hdqs., USAF, there were about 24 officers representing SAC, TAC, ARDC, AMC, MATS, ATC, and AF Finance Center. Objective: contractor and USAF installation briefing. Hosts were Robert R. Miller, Corporate senior vice-president, and Al Cline, Corporate director, Public Relations. Meeting convened in Product Display Building. Consensus: this year's success topping that of last year promises an annual event.

Talon—

(Continued from Page 1)

being an all-men affair.

The Edwards Norcrafters had put in plenty of long and willing hours and this was the climax of a great effort. Every anxious heart would ride with Lew and the Talon.

A supersonic jet fighter dressed in gaudy cerise paint took off with a scream. And another. And another. The runway at Edwards throbbed with traffic. A great Douglas DC-8 took off, steady and graceful.

A C-133 with turbine engines floated into the air and after the jets it seemed to be going much too slow, but with the greatest ease it floated off into the blue sky and out of sight.

A mirage blurred the takeoff end of the runway.

"You will see the tail first," said Tom McCracken. "A white spot coming around the tower. The taxiway is lower."

Through binoculars, looking at the spot where the taxiway was, a white object was moving, and then there were three objects. The T-38 and her two escorts, the T-33 and the F-100. They paraded into the mirage and seemed to float on stilt-like landing gear.

The T-33 took off first and made a quick return and took up a steep-banked spiral over the poised Talon.

The end of the runway was 5000 feet away and the cameramen stationed at intervals looked like stationary upright markers.

"She's moving!"

Jet exhaust was a thin dark cloud over the mirage.

The Talon was closing the angles between the cameramen one by one.

"She's airborne."

Lew Nelson flew her down the runway, gaining altitude slowly and consciously. The gear, according to plan, was still extended.

People were suddenly shouting and pounding each other. Yelling. The Talon tucked in her gear and made a gentle turn to the left. The F-100, taking off unnoticed, was coming into the turn on AB in effort to overtake her.

Through the binoculars, they headed toward the eastern mountains. They came back at about 8000. Then 10,000. Fifteen. The chase planes dropped out of visibility. The T-38 was a white speck in the sky, and then was lost to sight.

Takeoff time had been 11 a.m.

Then came 40 minutes of sky watching. Tiny airplanes drew white contrails across the desert sky. The radio truck was a focal point. Men pressed against each other to hear.

The sun began to bite the folks from Hawthorne. Dick Nolan took a turn, pacing in the sand.

John Couberly shouted, "There!"

They were coming in from the southwest. Three aircraft.

Three contrails. Through the binoculars, the Talon was sedately leading. The F-100 constantly changed vantage point as Captain Nelson (Swart) watched the fledgling from every conceivable angle. The T-33 did the best it could. It hung desperately to the Talon's stubby left wing.

They came in over the field, banked to the right and hung like jewels in the high blue.

Men made sounds. Not words. Sounds of satisfaction and pleasure. This was a fine moment in a fine flight.

They came around again and the Talon's gear was down. She banked sharply now, unafraid, and sure of herself. She came in fast and her high sink rate showed to fine advantage. She was on the runway and rolling.

A mechanic cried, "He greased her on! Old Lew greased her on."

Old Lew, who is 39 or thereabouts, had touched her down like a feather. He headed for the taxiway and the tower and the hangar.

Harrison and the crew were waiting.

"I've seen first flights," said George Mangurian. "I've seen three first flights. They don't happen very often. This was the most beautiful."

When the busses arrived back at the hangar the postflight briefing was under way.

Harrison and his boys were already checking the Talon.

Barring strong winds and other adverse weather, Lew would get a little rest and fly her again that afternoon.

Northrop-Norair News

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CHARLES BRADFORD, Editor

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The Talon Tries Her Wings . . .

TALON TAKEOFF TIME—Project people and Company officials take up vantage point on south side of Edwards flight runway. The weather is perfect for the upcoming test.

AF Displays Snark at Vegas Meet

Northrop Corporation and all Divisions were major participants in the World Congress of Flight held last week in Las Vegas.

Attended by world government, industrial, and military leaders, the Congress served to display the latest technological advances in flight and space sciences.

The Northrop team of representatives to the Congress was headed by Corporate Senior Vice-presidents Robert R. Miller and Thomas V. Jones.

Norair Vice-president and General Manager Dick Nolan represented Norair at the gathering.

A highlight of the Congress was a complete Snark brought in by the Air Force and displayed in the stadium area.

Another Northrop feature was helicopter service provided for notables from the Desert Inn to the Air Force firepower demonstration at Indian Springs. Norair helicopter pilot Will Cullop, with official permission, established a heliport in front of the hotel. Prince Bernhart of the Netherlands was an honored guest on the Northrop helicopter flights.

Company displays of products and processes, as related in the *Norair News* last issue, were maintained at the new Las Vegas Convention Center and in the stadium area, and were part of the opening ceremony for these new edifices.

Another Congress Northrop highlight was a special issue of the Las Vegas Sun with the entire front page featuring the Talon first flight.

Evolution of a Trainer

July 1954 . . . Design studies for lightweight highspeed trainer were initiated by Northrop. Time was ripe for such thinking. These were the pioneer days of Century Series aircraft, with attendant high speed, high altitude and high sink rate. These were the days when comparable performance, coupled with economy, was vital in a trainer airplane for jetmen.

May 1955 . . . Earliest official document extant. General Operational Requirement 94, outlined requirements for the T-Z trainer — Air Force designation. From very inception of thinking, Norair scientists had utilized state-of-the-art by incorporating into the trainer design twin jet engines of high-thrust-to-weight-ratio family.

March 1956 . . . First proposal on Norair-designated N-156T supersonic basic trainer was submitted to the Air Force. Fuselage had a wasp shape, fillets, contoured tailpipes and sweptback tail. Two months later, the Air Force announced contract for development engineering.

June 1956 . . . Decision was made to employ honeycomb bonding. Chem-milling is another example of the advanced manufacturing processes utilized in the T-38 which have thus wed ease-of-construction economy with high performance.

August 1956 . . . Air Force DEI Board passed mockup containing all systems. A month later Cockpit Standardization Board met with key Air Force personnel from ARDC, AMC, FTC and ATC. Norair's new trainer has 30-inch cockpit width, most commodious cockpit in AF single-place and tandem-seated inventory. Comfort and extremely functional arrangement of controls and equipment is thereby insured.

October 1956 . . . Formal mockup board met. Air Force officially approved design. AF designation of T-38 was made two months later.

December 1956 . . . Fuselage was modified from wasp look to the coke-bottle curve of today's T-38 Talon. Fillets were removed in accordance with this modification. Over-all length of trainer stretched 20 inches to 43 feet 1 inch. All these configuration changes emerged as carefully programmed wind tunnel tests were evaluated by Norair's network of top engineering talent. Such pretesting and astute analysis of the data thus obtained saved months in trainer development.

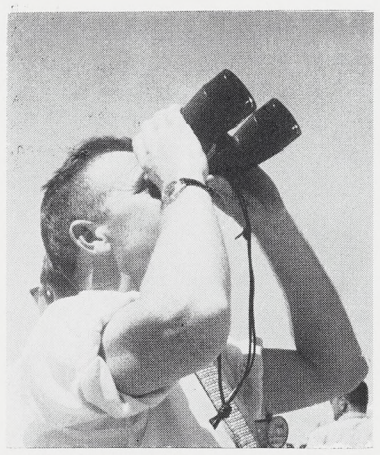
September 1957 . . . Sweptback tail evolved into trapezoidal tail, due to the former configuration's marginal directional stability in wind tunnel proving. Once again, value of wind tunnel testing was corroborated. With this change, T-38 design was frozen.

July 1958 . . . It was decided to paint test model of T-38 white to obtain maximum visibility in the desert flight test areas.

Thus was the T-38 conceived and formed. Even the smallest component has been Norair-engineered for maximum performance and economy. For instance, ease of maintenance was secured through patient and farreaching field and lab studies by Norair scientists of the chronic problems faced by AF mechanics, crew chiefs and maintenance officers.

And this is the airplane that rolled out from its production hangar on August 15 of last year . . . moved to Edwards Air Force Base for its first successful flight less than two weeks ago. The road ahead is well paved by the painstaking work in the past five years.

. . Men Watch with Satisfaction

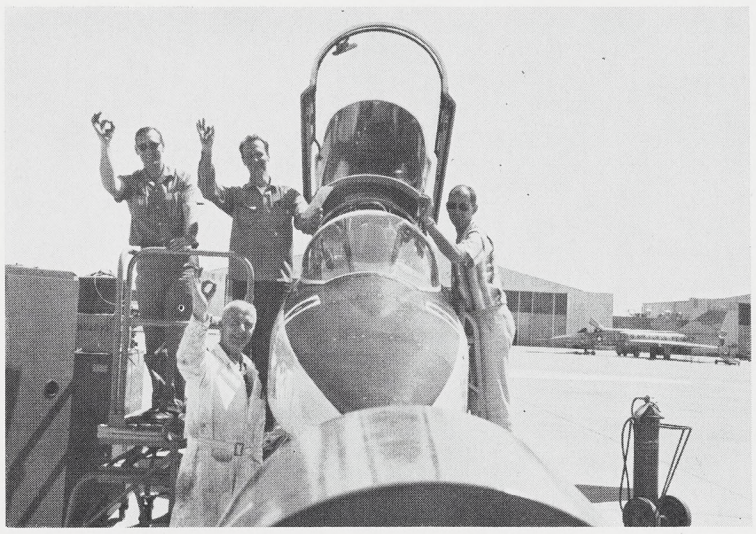


BIG BINOCULARS — John Couberly, assistant project engineer, reaches out with a pair of 7x50s to follow T-38 as long as possible.

ALTITUDE — Talon gets up into contrail country. Edwards Air Force Base and Mojave desert is far below.

THERE! — Men follow the Talon's every move as long as they can see her. Radio station wagon, hood showing, on the Talon wave length, was focal point of interest all during the flight.

LITTLE BINOCULARS—R. N. Oliver, T-38 Systems, also tries to hold a visual on the Talon as the airplane goes to altitude in her first flight.



IN THE BAG—T-38 crewmen give traditional okay sign as they start postflight check immediately after Lew Nelson brings Talon to hangar. From left: Hal Berry, Bill Rowles and Vic Peck. In foreground is Kelly Burke. Second flight, weather permitting, is scheduled in a few hours.

SHOP TALK—Colonel A. T. Culbertson, deputy CO of the Air Force Missile Development Center, Holloman, and Major Clarence A. Edmonds, T-38 Project officer, AFPR, listen intently as Lew Nelson gives highlights of first flight. Colonel Culbertson was Air Force pioneer in the T-38 development.

EVERY WORD—Lew Nelson, still in flight coveralls, details Talon behavior in a big briefing following small postflight briefing. To his immediate right are Messrs. Collins, Timberlake, Nolan and Roth. He stated, "Handling characteristics were as predicted by our analytical people. Her flying qualities are excellent." With this report the first flight was over. It had been a very long, but very satisfactory morning. Time for the pilot to get some rest. Another flight was scheduled in a few hours.

REPORT—Pilot Lew Nelson heads for postflight briefing with no squawks or significant malfunctions against the new airplane. "Fergie" Ferguson leads the way. Others are Clyde Jensen, Larry Rothrock and Max Stanley. Louie Weltz and Chris Soihl are in extreme right background.

THE T-38—"The T-38 is a clean airplane. The cleanest first flight in my experience—and the first with no squawks." Lew Nelson checks his notes taken in flight and calmly outlines his favorable report.

NRC Good Time Table for May

For enrollment or information on activities listed below, call or contact Personnel Activities, Plant One, extension 2784. All clubs meet at the NRC Clubhouse unless otherwise noted.

ARCHERY (days), Wes Williams
Meet Wednesdays, 7:30 p.m.—movies 1st Wednesdays. Archery classes now in session.

ARCHERY (nights), Ray Mechling
Meet at 513 W. 146th St., Gardena, 3rd Sundays.

ARĪ CLUB (days), Forrest Ayrest
Meet in Annex Thursdays, 7 p.m. Models furnished by NRC.

ASTRONOMY (days), Jim Stowe
Meet 2nd & 4th Mondays, 7:30 p.m. Fifth lecture in series May 25.

BIBLE STUDY, Roy Stahl
Plant I—Daily, 11:30-12:15, Tool Design Bldg; 11-11:45, 5566 Conf. Room.
Plant II—Mondays & Thursdays, 12-12:45, Conf. Room 2.
Eng. Center—Daily, 12-12:45, Reliability Conf. Room.

BOAT CLUB, Ken Payne
Meet 1st Wednesdays, 7:30 p.m.

BOWLING (days), Dave Carney

BOWLING (nights), Charlie George
Summer leagues now rolling.

BOY SCOUTS, Sid Cohan
Sea Scouts, Intermediates, Cub Scouts. All Norcrafter boys welcome.

CAMERA CLUB (days), Fred Armstrong
Meet 1st, 3rd & last Wednesdays, 7:30 p.m.

CAMERA CLUB (nights), John Newman
Meet 1st & 3rd Saturdays.

CAMPING CLUB, Fred Brant
Meet 1st Mondays.

CHESS CLUB, Bill Henderson
Facility-wide tournament in progress.

GEM & MINERAL CLUB (days), Ray Cole
Meet 2nd Wednesdays, 8 p.m. Mineralogy classes Thursdays, 7-9 p.m.

GEM & MINERAL CLUB (nights), Victor Lincoln
Meet 1st Wednesdays, 1:30 p.m.

GOLF (days), Ted Deguisne

GOLF (nights), Russ Munsen
Yucca Valley May 24.

GUN CLUB (days), Robert Raines
Meet 3rd Wednesdays, 7:30 p.m.

KNITTING, Nina Shannon
Meet Thursdays, 7:30 p.m.—instructions each meeting.

MIXED CHORUS, Burt Bracher
Meet Tuesdays, 7:30 p.m.

MODEL RAILROAD, Jack Wilson
Meet in Annex Thursdays, 7-10 p.m. Visitors welcome. Need electricians, carpenters & scenic artists to help with new layout.

ORGAN CLUB, Gail Skinner

PHILATELIC CLUB, Eugene Richardson
Meet 2nd & 4th Mondays, 7 p.m.

RADIO CLUB, Andy Dolak
Meet last Thursdays, 7:30 p.m. Radio code class meets Wednesdays, 7:30 p.m. NRC's station is W6VPZ.

SKEET CLUB, Walt Graves
Meet alternate Saturdays, May 2, 16 & 30, at Rancho Angellis Range, Main & Broadway, 10 a.m.

SKI CLUB, Chuck Morse
Meet 4th Wednesdays, 7:30 p.m.

SKINDIVING (days), Ralph Gonzales
Meet 3rd Mondays, 7:30 p.m.

SKINDIVING (nights), Lillian Kemble
Meet 3rd Wednesdays, 1 p.m.

SPORTS CAR CLUB, Jack Kirkpatrick
Meet 2nd Thursdays, 7:30 p.m.

SQUARE DANCING, George Sanborn
Beginners' class at Henry Clay Jr. Hi Fridays, 8-11 p.m.

SURF FISHING, John Pawlicki
Meet 1st Tuesdays, 7:30 p.m.

TABLE TENNIS, Robert Burke

TENNIS, Raul Arredondo
Meet 1st Mondays, 7:30 p.m. Practice & instruction at El Camino Jr. College Saturdays, 10 a.m.

TOASTMASTERS 212 (days), John Walker
Meet at Cockatoo Inn Thursdays, 6:30 p.m.

TOASTMASTERS 1398 (nights), Jay Rayner
Meet at Western Avenue Country Club Thursdays, 12:15 p.m.

TOASTMASTERS 2583 (days), Walt Brown
Meet at Paul's Club Alondra Mondays, 6:15 p.m.

TRAVEL CLUB, Howard Cornelius
Meet 4th Mondays, 7:30 p.m. Las Vegas Daze May 15-17.

FOR THE LADIES

BOWLING (days), Corinne Davis

BOWLING (nights), Mary Mimnaugh
Summer leagues now rolling.

GIRL SCOUTS, Dallas Vasquez
Mariners, Intermediates, Brownies. All Norcrafter girls welcome.

TOASTMISTRESS, Marge Gates
Meet in NRC Clubhouse Board Room 1st & 3rd Thursdays, 7 p.m.

BBSF Classified Ads

Items advertised in "For Sale" and "For Sale or Trade" categories are limited to a maximum of $50. Price must be stated.

Ads for agencies, commercial enterprises and private businesses are not accepted.

Deadline is noon Monday, nine days before publication.

FOR SALE

FURNITURE, dining set, blond, table, 4 chairs, buffet; coffee table, round, glass top; end tables, 2 semicircular, glass tops; $40. Box 1401. A

CHILD'S FURNITURE, feeding-play table, Storkline, w/tubular extending legs, $15; hobbyhorse, $10. FR 5-5238. A

MUSIC CENTER, Philco table model, radio & automatic 78-rpm phono, $15. DA 4-6748. A

ENGINE, 1.75-hp, $20. FR 5-6095. A

REFRIGERATOR, Coldspot 8.2 cu ft, $35. FR 4-1962. A

SEWING MACHINE, Westinghouse console, walnut, $30. DA 9-9464. A

TYPEWRITER, Underwood portable, w/case, $34.50. OR 4-5405. A

REFRIGERATOR, Gibson 8 cu ft, top freezer, $35. OL 6-2735. A

CLOSET, 42", unfinished plywood, w/sliding double door, cost $50, $27.50. ST 9-2534. A

BASSINET, w/pad & liner, $10. FR 2-3287. A

COUCH, moss green, $15. AX 4-7852. A

CAMERA, Ikoflex 2¼" twin-lens reflex, Tessar f:3.5, $40. FA 1-2284. A

VIOLIN, w/case, $50. FR 5-8263. A

BABY FURNITURE, buggy, $15; playpen, $8; jumper seat, $3. DA 4-9066. A

TRAILER, 4½'x7', steel frame, 1959 license, $50. FA 8-2197. A

LIVING ROOM SET, sleeps 3, $25. Box 1403. A

WASHER, Bendix Economat automatic, $35. OS 9-1243. A

CODE EQUIPMENT, records, ETI, set of 36, $23; oscillator, Gonset Monitone, $15. FR 4-4140. A

OSCILLATOR, ARC5 v-f, 7- to 9.1-mc, regulated power supply, $30. VE 7-6305.

DESK, maple, schoolmaster-type, $50. FR 8-1894. A

PIANO, upright, leather-covered, $50. OR 1-8475. A

FLAGSTONE STRIP, Arizona-type, $5. GR 7-1539. A

GOLF CLUBS, left-handed, 9 irons & 3 woods, w/bag, $50. FA 8-4588. A

APPLIANCES, range, apt-size gas, $12; washer, $10. PL 6-4755. A

WARDROBE, 5'x6', $28.50. DA 9-7743. A

TV SET, Emerson 17" table model, $30. OS 5-8687. A

POWER MOWER 20" reel-type, 2 yr old, w/grasscatcher, Briggs & Stratton engine w/belt & chain drive, $50. OS 5-1842.

BED, single-size, $12. DA 9-1278. A

FURS, 6 skins, Australian sable, $50. FA 8-3990. A

RANGE, gas, $50. LA 2-7489. A

CRYSTALWARE, modern, smoke-color, 8 goblets, 8 sherbets, cost $40, $20. DA 6-4776. A

CAMERA EQUIPMENT, movie camera, Brownie 8-mm, f:1.9, turret, wide angle & telescopic lens; lite meter, Sekonic; $47.50. FR 9-1527. A

FENDER SKIRTS, 1953 Oldsmobile Super 88, $5. OS 5-5978. A

CAR PARTS, 1936-56 Plymouth-Dodge 6s, distributor, Mallory dual-point. $10; headers, Fenton dual-exhaust, $5. Box 1410. A

WANTED TO BUY

REFRIGERATOR, 2-dr. OS 6-2704. B

DESK. FR 9-9616. B

SUN LAMP. Box 1405. B

BICYCLE, girl's 26". Box 1406. B

FUR COLLAR, Peter-Pan-style, silverblu mink or black fox. Box 1407. B

FRENCH CURVE. Box 1408. B

TANK, small, for air compressor. DA 9-6728. B

APPLIANCES, bilt-ins, gas, range & oven. DA 6-5558. B

PLAY GYM, swing, glider. PL 6-4755. B

TRANSPORTATION CAR, prefer Big 3. DA 4-2472. B

SLIDE RULE, 5". PL 4-4384.

TEMPLATES, circles, ellipses, miscellaneous. Box 1410. B

FOR TRADE

SEWING MACHINE, Kenmore console, trade for portable sewing machine. Box 1409. C

ENCYCLOPEDIAS, American Peoples 20-vol set, w/glass-topped bookcase-coffee table, trade for small piano. Box 1402.

CHILD CARE OFFERED

CHILD CARE, licensed, in my home, near Norair. OS 5-9600. G

CHILD CARE WANTED

CHILD CARE WANTED, girl & boy, 3½-yr-old & 9-mo-old, 6:30 a.m.—4 p.m., references, $15 wk. Box 1404. H

LOST

WATCH, Waltham gold, w/black suede band, reward. DA 6-7235. J

FOR SALE OR TRADE

JIG SAW, Montgomery Ward, 27" throat, mounted on work table, w/tilt table & 1/3-hp motor, $30 or trade for 8" table saw. DA 6-4898. M

TYPEWRITER, Royal portable, $50 or trade for standard typewriter. DA 4-5431. A

Cartwheels, Stellar Shows On Travel Club May Agenda

Vegas is the next port-of-call on the NRC Travel Club log—May 15 through 17.

For a weekend of gaming, gadding and gaiety in the swank gaudery of America's Monte Carlo, alternative travel plans are offered.

One choice is to DC-4 it champagne-style from Northrop Field at $44.20 per. Flight time is 9 p.m. Friday, May 15, with back-to-Hawthorne time 4:15 p.m. Sunday. Second alternative is via Greyhound at $30 for each Vegas-goer. Bus leaves Plant One Cafeteria 7 pm. Friday and returns 9 p.m. Sunday.

Whatever the mode of travel, the silver-dollar safari will encamp at the Hacienda Hotel. Reservations for 100 double-occupancy rooms have already been made by the Travel Club and will be assigned on a first-come basis.

Included in the price of the trip, besides travel and Hacienda lodging, are gourmet buffet dinner, gratis champagne, floor show reservations, swimming at the largest hotel pool in Nevada, and protected parking.

More information and reservation forms are available at all Personnel Activities offices. Deposit of $5 per person is payable with reservation and is required not later than Monday, April 27.

At 7:30 p.m. that evening, the regularly scheduled meeting of the NRC Travel Club will be the scene of Las Vegas plans finalization.

Boaters Hoist Anchor Drag Sail Saturday

All NRC ship compasses point to the lodestone of the 1959 boating season—the Boat Club's annual Anchor Drag this Saturday at two bells of the night watch (9 p.m.).

Commissioner Ken Payne proclaims divertissement of a nautical nature as the Drag theme. Perhaps no hornpipes will be played. . .but Les Golden and his Golden Tones will ensure a rhythmic backdrop for the gamboling gobs and guests.

Seafaring duds are expected to be in predominance that evening in the NRC Clubhouse Annex, the rolling Drag deck. Landlubbers are welcome too, whether or not they dress the part.

Tickets may be secured in advance by calling Steve Sabo, extension 1581, or may be bought at the door.

NRC KNITS NEW CLUB IN SCHED

The most well-knit club in the Northrop Recreation Club has been reactivated. . .one in which the members do a lot of ribbing but no one takes offense.

This yarn, of course, describes the gals' Knitting Club which purls each Thursday at 7:30 p.m. in the NRC Clubhouse Craft Room.

A ball of yarn and a pair of mated needles are the only requirements for membership. Not even knowledge of the 500-year-old craft is necessary—the Southland designer and knitting instructress, Mrs. Rose Deutsch, provides a guiding and teaching hand at each meeting. There is no charge to knitting neophytes for this service.

Network TV Cameras Focus on Diane Berry

Diane Berry, Engineering Facilities, put in her initial appearance before the red eye of the network TV cameras as guest vocalist on the Lawrence Welk show of April 8. After "Someone to Watch Over Me," she encored with "S'wonderful." In the latter number, Diane's second chorus was accompanied by her brother-in-law, Welk's trumpet man.

The show-biz family of 21-year-old Diane starts with her father, a musician, and her mother, a former vaudevillian. Both her sisters are also seasoned singers and on many occasions she has trio'd it with them.

Diane and one sister have been putting on a sibling act each week at the Terminal Island Naval Officers Club. In Diane's words, "My sister sings ballads and I take the jump numbers."

RIDES WANTED

7:00 a.m. — 3:45 p.m.

CENTRALIA & NORWALK BLVD., Artesia. A. L. COOPER, ext. 2417. 2

HERMOSA AVE. & 16th ST., Hermosa Beach. Margaret Tisoncik, FR 2-4026. 2

EL SEGUNDO BLVD. & INGLEWOOD AVE., Hawthorne. S. Vargas, OS 9-3819.

CARSON & ORANGE, Long Beach. G. J. Grummer, GA 7-4370. 2

7:30 a.m. — 4:15 p.m.

HERMOSA AVE. & 2nd ST., Hermosa Beach. Jean Williams, ext. 1331. 3

MAGNOLIA & ORANGE, Anaheim. W. A. Day, JA 7-4270. 3

FREEMAN & MANCHESTER, Inglewood. Mary Bortels, ext. 2586. 3

ARTESIA & STUDEBAKER, Artesia. H. L. Hawkins, ext. 2196. 3

PIER & PROSPECT, Hermosa Beach. Rae Ann Savage, FR 6-4062. 3

SPIE Names Wheeler As LA Chapter Secretary

Bob Wheeler, metric photographer, Norair Engineering Photo Lab, has just been elected secretary of the Los Angeles chapter of the Society of Photographic Instrumentation Engineers.

SPIE is a national society whose ranks are drawn from professionals engaged in the design, manufacturing or use of photographic instrumentation equipment.

The Northrop-Norair SPIE contingent has just been amplified by selection of Bill Harrison, Ron McGaffin and Al Saiget for membership in the Los Angeles chapter.

Luau
May 9—6:30 p.m.
Royal Palm Grove
Palos Verdes
tickets and maps at all Quality Control offices

RIDES WANTED

7:30 a.m. — 4:15 p.m.

COMPTON BLVD. & PRAIRIE, Lawndale. Dorothy Leslie, OS 5-6491. 3

CONANT & PALO VERDE, Long Beach. Karla Dixon, HA 9-7732. 3

8:00 a.m. — 4:45 p.m.

PRAIRIE & 109th ST., Inglewood. Ila Hartness, ext. 2123. 5

IMPERIAL & VISTA DEL MAR, Playa del Rey. Virginia Poor, EX 8-5096. 5

GRAND & VIRGINIA, El Segundo. Tom Riddle, EA 2-5651. 5

CRENSHAW & HWY 101, Torrance. J. Reed, DA 6-5558. 5

SANTA MONICA BLVD. & WESTERN, Hollywood. Harold Greer, HO 4-6094. 5

SHERMAN WAY & WHITSETT, North Hollywood. I. J. Haber, PO 5-1203. 5

SEPULVEDA & VENICE BLVD., Los Angeles. Leonard Leventhal, EX 7-0403. 5

FREEMAN & IMPERIAL, Inglewood. Bernice Coates, OR 3-2359. 5

ALLEN & COLORADO, Pasadena. E. L. Jucevic, SY 6-4696. 5

Miscellaneous — Split Shift

PALOS VERDES BLVD. & SEPULVEDA, Torrance. (Hours: 4:15 p.m.—12:45 a.m.) Aurore Demers, FR 5-2786. 10

MANCHESTER & NORMANDIE, Los Angeles. (Hours: 7:15 a.m.—4 p.m.) Helen Steffey, PL 3-9835. 10

RIDES OFFERED

7:00 a.m. — 3:45 p.m.

CENTRALIA & NORWALK BLVD., Artesia. A. L. Cooper, ext. 2417. 12

MANCHESTER & VAN NESS, Los Angeles. R. A. Bean, PL 1-7753. 12

7:30 a.m. — 4:15 p.m.

MAGNOLIA & ORANGE, Anaheim. W. A. Day, JA 7-4270. 13

FREEMAN & MANCHESTER, Inglewood. Mary Bortels, ext. 2586. 13

CONANT & PALO VERDE, Long Beach. Karla Dixon, HA 9-7732. 13

8:00 a.m. — 4:45 p.m.

SANTA MONICA BLVD. & WESTERN, Hollywood. Harold Greer, HO 4-6094. 15

SHERMAN WAY & WHITSETT, North Hollywood. I. J. Haber, PO 5-1203. 15

SEPULVEDA & VENICE BLVD., Los Angeles. Leonard Leventhal, EX 7-0403. 15

HIGHLAND & ROSECRANS, Manhattan Beach. Frank Hoerman, ext. 2024. 15

LINCOLN & MANCHESTER, Playa del Rey. I. Sherlock, EX 8-4032. 15

ALLEN & COLORADO, Pasadena. E. L. Jucevic, SY 6-4696. 15

PALOS VERDES BLVD. & TORRANCE BLVD., Torrance. R. R. Olson, ext. 403.

4:45 p.m. — 1:15 a.m.

BROOKHURST & WESTMINSTER, Garden Grove. A. L. Burton, JE 1-2414. 18

T-38 Talon Supersonic Trainer

Northrop-Norair News

Issued biweekly by Norair Division of Northrop Corporation • Wednesday, May 6, 1959

NORTHROP–NORAIR

NEWS BRIEFS

T-38 1960 BUY—Norair's proposal for 1960 fiscal year Air Force purchases of T-38A airplanes is now in the hands of procurement personnel at Wright-Patterson Air Force Base, it has been announced by Al Morgan, vice-president, Contracts and Services. The 1960 buy constitutes the third Talon increment of aircraft leading up to full production. Mr. Morgan will be at Wright-Patterson with the Norair team during the first two weeks in June to finalize contract negotiations.

N-156F—Also while at Wright-Patterson, Mr. Morgan will negotiate a definitive contract on the N-156F. Company now has letter contract on the N-156F with program hardware calling for prototype airplanes to prove flight characteristics, one static test airplane, spare parts, ground support equipment and complete technical data.

SYMPOSIUM RESULTS—First report on the Talon Supplier Symposium from Materiel Director J. W. Hinchliffe to General Manager Nolan reflects outstanding results in areas of (1) cost reduction, (2) reliability, and (3) schedule expectations . . . The

(See NEWS BRIEFS, Page 2)

Page Transfer Completed; Now Northrop Subsidiary

Northrop Corporation has completed acquisition of 100 per cent of the stock of Page Communications Engineers, Inc., and established the company as a wholly-owned subsidiary, Whitley C. Collins, Northrop president, announced last week.

The transaction took place following the issuance of a permit by the California Commissioner of Corporations. Northrop's proposal to exchange 94,998 shares of Northrop stock for the total outstanding stock of Page had previously been approved by directors of both companies.

Acquisition of Page places Northrop in the new field of advanced systems for worldwide communications, Mr. Collins pointed out. Main offices of the company are situated in Washington, D. C., and the firm's branch offices in San Francisco, Naples, Manila, Guam and Honolulu will supplement Northrop's international operations. Already under way is a joint Italian corporation, Edison-Page, S.p.A., formed by Page with the Societa

(See PAGE, Page 2)

James Allen Appointed Corporate V-P

James Allen, member of the Board of Directors, Northrop Corporation, has assumed his duties as vice-president and assistant to the president, following announcement by Whitley C. Collins last week.

Mr. Allen has been a member of the Northrop Board since 1952. He serves on the Board's Executive Committee, the Stock Option Committee, and the In-

(See ALLEN, Page 2)

TALON PROVING HER ABILITY IN EDWARDS FLIGHT PROGRAM

AF'S CAPTAIN NELSON MAKES HOP

The T-38 Talon, already 10 flights into her program at Edwards, is handsomely living up to design specifications and proving her airworthiness.

With Lew Nelson at the controls, the Talon has broken the speed of sound, has been rolled, stalled, flown on one engine, and has undergone air starts.

AIR FORCE FIRST—Captain Swart Nelson, T-38 Project pilot, is the first Air Force man to fly Norair's Talon.

Handling characteristics of the airplane during initial flights have been outstanding—so much so, that Captain Swart Nelson, AF T-38 Project test pilot, flew her on her fifth flight.

The Talon will be one of the first to come under the new Air Force concept of accelerated tests. In the past, Company pilots have usually flown a new airplane for 30 or more flights before Air Force pilots entered the program.

In commenting, Norair pilot Lew Nelson stated, "We are proud to have the T-38 be the first to demonstrate the new AF-customer integrated test concept where the Air Force loses no time

(See TALON, Page 2)

CONGRATULATIONS—Stan Erbeck, T-38 Project engineer, congratulates Captain Nelson on occasion of his first T-38 flight. From left are Roy C. Whites, Flight Test engineer, Lt. Colonel James C. Pedersen, T-38 Category I and II Test director, AFFTC; Captain Nelson; Mr. Erbeck; and Larry Rothrock, Project Flight Test engineer. Captain Nelson's was fifth flight for Talon, signalled early start of the integrated Air Force-Norair T-38 flight program.

HAKES AND WELLS TAKE PART IN SCIENCE SERIES

Ralph Hakes, supervisor, Astronautics, and Dr. Gordon Wells, supervisor, Human Engineering and Equipment Design, are among prominent U. S. scientists featured in a new nationwide radio series called *Supersonic Supermarket.*

The series, to be heard on more

(See HAKES, WELLS, Page 2)

PAGE TRANSFER COMPLETED—From left: W. R. Covington, Norair Law section; Robert R. Miller, Corporate senior vice-president; Corporate Vice-president, Legal, William Larrabee; Esterly C. Page, president, Page Communications Engineers; Wm. R. Langdon and James W. McDonald, Security First National Bank—stock transfer agents for Northrop. Photo shows final exchange of stock in which Page became a wholly-owned subsidiary.

Ten-year Service Pins to Fifteen Q-C Folk in April

Bob Catlin, manager, Quality Control, was pleasantly surprised and pleased last week when an envelope arrived from Personnel containing 15 April 10-year pins for people in his department.

Mr. Catlin called the *News.*

The 15 Norcrafters are as follows:

C. H. Braden, Boeing project inspection.

Art Zahn, 5517 Assembly.

E. M. Johnson, Gauge Room.

R. E. Cahill, Welding.

N. A. Harvey, process analyst.

E. K. Wilson, Nondestructive Lab.

R. E. Fisher, Quality Control engineer.

R. H. Holechek, supervisor, T-38.

R. S. DeArmond, Advanced Production.

J. W. Shipley, supervisor, Prototype.

C. W. Sears, jr., Outside Liaison.

D. H. Jackman, Receiving Offsite Machine Parts.

Betty Maine, lead clerk, Receiving, Shipping and Offsite.

John Pawlicki, Materials Review.

Wilma Mounts, administrative secretary.

(See Q-C PINS, Page 2)

COMMENDATION FOR PRESIDENT COLLINS

President Whitley C. Collins has been commended by the California State Legislature for his leadership in industry and his support of many civic activities.

In a unanimous resolution on April 17, the Assembly directed that Mr. Collins be notified of the distinction and that copies of the honor be forwarded to him.

The action was introduced by assemblymen Honorable Charles Edward Chapel, 46th District; Honorable Clayton A. Dills, 67th District; and Honorable Charles H. Wilson, 66th District.

Page—

(Continued from Page 1)

Edison of Milan, Italy, to provide U. S. technology in the field of communications through a new branch in Rome.

"At its present rate of revenues, Page should add about 16 million dollars annually to Northrop sales," Mr. Collins said. "Although it is most attractive in terms of its long-range potential, it is already sufficiently profitable that its acquisition will cause no dilution in per-share earnings for Northrop stockholders."

Mr. Collins emphasized that no changes are contemplated in the executive and technical personnel of Page.

Page is currently engineering national and international communications systems on four continents and has completed the world's first intercontinental network employing the new scatter-propagation techniques in which radio signals are reflected from the stratosphere and ionosphere for clear, long-distance transmission. It has carried out system feasibility studies, siting surveys, system planning and programming, procurement and installation of electronic equipment, and the construction of supporting facilities, such as access roads, buildings, power lines and plants.

Most of the Page firm's work has been undertaken for the U.S. armed forces, and installation and performance have been designed to conform to rigorous specifications and operational requirements. PCE installed the first high-reliability scatter systems for the USAF from the U.S. to Thule, Greenland, and from the U. S. to England, and a $20,000,000 multichannel system in the Pacific for the U. S. Army Signal Corps. The Signal Corps network combines scatter-propagation with microwave transmission and multiplex telephone and telegraph. Page has engaged in Navy projects in North Africa, Italy and Morocco, and has worked with the Air Force Project DEW East on siting and path loss tests for the eastern extension of the DEW Line.

Past Years in the News

FIFTEEN YEARS AGO—

Wednesday, May 10, 1944

Norcrafters were asked for increased production on the P-61 Black Widow due to urgent military need in the theaters of war.

* * *

Thirty-three Norcrafters won promotions. One of these, Jack Mannion (now assistant to Norair general manager), was advanced to assistant chief inspector, department 27.

TEN YEARS AGO—

Wednesday, May 4, 1949

Today, Army Day, Northrop's war-won Army-Navy E-flag flies at Plant One. Display of the flag has become a traditional ceremony reserved for national observance of Army Day.

* * *

Dr. Theodor von Karman, chairman of the Air Force Scientific Advisory Board, in an interview with the national press last week, designated the Flying Wing as having outstanding cargo design advantages.

VISITOR ARRANGEMENTS NOW HANDLED BY PHYLLIS BROWN

Norcrafters are advised by Joe Swift, coordinator, Visitor Control, that there has been a change in the very important job of Visitor Arrangements at Norair.

Elsie Thomas, long the person who made customer visits seem easy, has resigned to become Mrs. Chet Dunn. (Chet is a former Norcrafter.) The couple will reside in Escondido.

PHYLLIS BROWN

Phyllis Brown will now make all necessary visitor arrangements, accommodations, transportation reservations. She will also coordinate visitor clearance with Security.

Her phone number, Elsie's old number, is 2394. Her office is in department 8000, Plant Four.

Phyllis was formerly in Plant Engineering. She is a two-year Norcrafter.

MILDRED DIXON TO NEW YORK BY BOEING JET 707

Mildred Dixon 707ed to New York City on her vacation last week "just because Norair helps to make 'em."

A five-year Norcrafter, Mildred is a secretary in Electronic Buying. To the *News*' knowledge she is the first Norcrafter to vacation on one of American Airlines' new Boeing jets.

She had already made her flight reservations when she found it would be possible to catch the Sunday morning jet to Gotham. . .so she did. And, incidentally, in so doing her air time was slashed to under five hours.

SUGGESTION AWARDS TO NEW LOCATION

Suggestion Awards office, organization 4330, has moved to a new location.

From the Assembly Building, the function has requartered in the southeast end of Plant One second floor. The new mail zone is 10.

Extensions remain 472 and 2195.

For the convenience of idea men (and women), suggestion boxes are located in key spots throughout the facilities.

Childers, Bryan To Direct SC Space Technology Meet

Chemistry, Rockets and Space Symposium, sponsored by the University of Southern California Chemistry Alumni Society, will be presented at USC this Saturday morning, May 9.

Codirectors of the symposium are Dr. George M. Bryan, Nortronics, chairman of the society, and Howard Childers, Norair Materials Research Laboratory, chairman of the society's Public Relations committee.

The Chemistry Alumni Society, formally organized in 1957, is composed of graduates or former associates of the Chemistry or Chemical Engineering departments of USC. Through an organized committee structure, the society promotes community consciousness of chemistry's role and the need for chemistry education in our burgeoning space age.

According to Mr. Childers, the upcoming symposium, first of a proposed series, will be the locus for four informed technical presentations on rocketry fundamentals, solid and liquid propellants, and space propulsion systems. The program is intended to provide educators, engineers and interested industrial technicians with a better understanding of a key space-age technology.

The meet will begin with registration at 8 a.m. in Room 133, Founders Hall. There is no fee. Dr. Norman Topping, USC president, will extend the welcome.

Allen—

(Continued from Page 1)

centive Compensation Committee.

The appointment will bring Mr. Allen's finished talents to bear on vital Corporate matters, including product acceptance and suitability, high-level program planning and timing, over-all Company concepts, and presentation policies.

Mr. Allen is a vice-president of the Atlas Corporation and an officer of two of its subsidiaries. He will continue his association with Atlas, in addition to his board membership and vice-presidential duties at Northrop.

Mr. Allen was with the Securities and Exchange Commission for several years and was director of public relations for the U. S. Department of Justice.

During World War II, he was deputy director of the Office of War Information and later helped to reorganize the RFC.

Q-C Pins—

(Continued from Page 1)

"Presentation of service pins is one of my best duties," stated Mr. Catlin. "I was very proud when I received my 10-year pin. And I know all Norcrafters feel the same."

Bob, as he is known throughout the plant, is about due for another pin. He will have 20 years service in October of this year.

The 15 Quality Control Norcrafters named above have a total of 206 years of aircraft experience. Art Zahn of the group has never been absent. He has been tardy twice, each time due to circumstances beyond his control.

NEWS BRIEFS

(Continued from Page 1)

many supplier suggestions resulting from symposium discussions show an over-all average savings of $800 a shipset—these are approved suggestions . . . Suppliers scored improvements in all areas of the airplane, with savings ranging in shipset dollar value from $28 for a cylinder to $5000 for cabin conditioning. Stated General Manager Nolan, "The T-38 Supplier Symposium is now proven as a significant step in industrial team communications. We are very proud that Norair has recorded this industry first . . . Cost reduction as a result of the symposium was very gratifying, but just as significant to our combined team objective are the improvements in schedule position and reliability of product. I wish to again congratulate Materiel and all supporting departments for this fine accomplishment." . . . Discussions are now under way to further implement the supplier team symposium concept by programming additional meetings for each aircraft order. These would serve to evaluate and acknowledge past accomplishments and to spotlight new fields for concentration of effort.

TAPE RECORDED INVENTORY—Dan H. Hill, Norair treasurer, announces that Property Management, R. G. Lockwood, director, has installed more economical control procedures through tape recorded inventories on Company asset and government furnished property. . . . An innovation in the aircraft industry, and a relatively new technique in the other industries, the tape recorder enables one person to make a quick sure count and description of large numbers of items. Inventories were formerly done by a team of two persons—one calling out and the other recording. Aside from saving many man-hours, the process has shown a remarkable increase in accuracy. The recorder used is the Dictaphone Dictet, a small, near pocket-sized machine with self-contained batteries and quick-changing one-hour tape reels. An important feature of the machine is its ability to record through shop noises such as routers, hammers and presses. . . . In announcing the tape recording method, Mr. Hill complimented Norcrafters for their valuable assistance in helping to account for the more than 45,000 items of property in the plants, either belonging to the Company or the government. "During the past months," Mr. Hill stated, "supervision and lead personnel have become more aware of the importance of property accountability. Efficiency of control and accountability is on a steady increase."

GOOD COST RECORD—Phaseout of the McDonnell F-4H subcontract has been accomplished with a commendable cost record, it has been announced by Vice-president, Manufacturing, Bob Lloyd. "Contract phaseout is the most difficult stage in which to control costs," stated Mr. Lloyd. "F-4H phaseout not only held the cost line, but actually showed a cost reduction. All levels of management have contributed to this fine showing. Line supervision is to be especially congratulated." . . . All shipsets and spares on the F-4H have now been delivered to St. Louis.

Talon—

(Continued from Page 1)

in getting into the airplane. This type of program gets airplane qualified for operation sooner and reduces costs by getting necessary changes firmed before production version starts rolling off the line. The new integrated concept saves both time and money and is of joint advantage to both contractor and customer."

Norair pilot Jack Wells has also flown the Talon.

Other early tests performed by the Talon have been emergency gear extensions, flutter investigations, and emergency hydraulic power capability.

In evaluating the program to date, Hugo Pink, chief, Airplane Flight Test, stated, "The T-38 Talon bears out the statement General Manager Nolan made last week. It is probably the busiest airplane at Edwards. We've had as high as three flights in one day. That was on Wednesday, a week ago. And this is all to the good. Airplane flight programs are expensive and it is our job to find and correct problems as rapidly as possible. There have been no major difficulties. The T-38 is the best airplane in my testing experience. The T-38 is a clean airplane."

The second Talon is scheduled to enter the Edward program in mid-May.

Fiore Enlightens Group Of Illuminating Engineers

Mike Fiore, Human Engineering, presented a paper recently to the Aircraft Lighting Committee of the Illuminating Engineers Society. This annual meeting of the committee took place at the IAS Building.

Mr. Fiore's paper is entitled "Visibility—Is It Possible at Today's High Speeds?" and examines the problems of designing multimach airplanes for optimum pilot vision. His work as a space-age engineering psychologist at Norair was the informed basis for this presentation.

Hakes, Wells

(Continued from Page 1)

than 300 American radio stations, has been prepared by the Office of Information Services of the North American Air Defense Command. Purpose is to tell the story of the advanced techniques being used in defense of the nation against aggression.

A team headed by Colonel Barney Oldfield, director, NORAD Information Services, visited Norair recently to obtain recordings for the programs.

Arrangements here were made by Wm. G. Cox, Norair assistant director of Public Relations.

Northrop-Norair News

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NORAIR DIVISION
CHARLES BARR, Director

CHARLES BRADFORD, Editor

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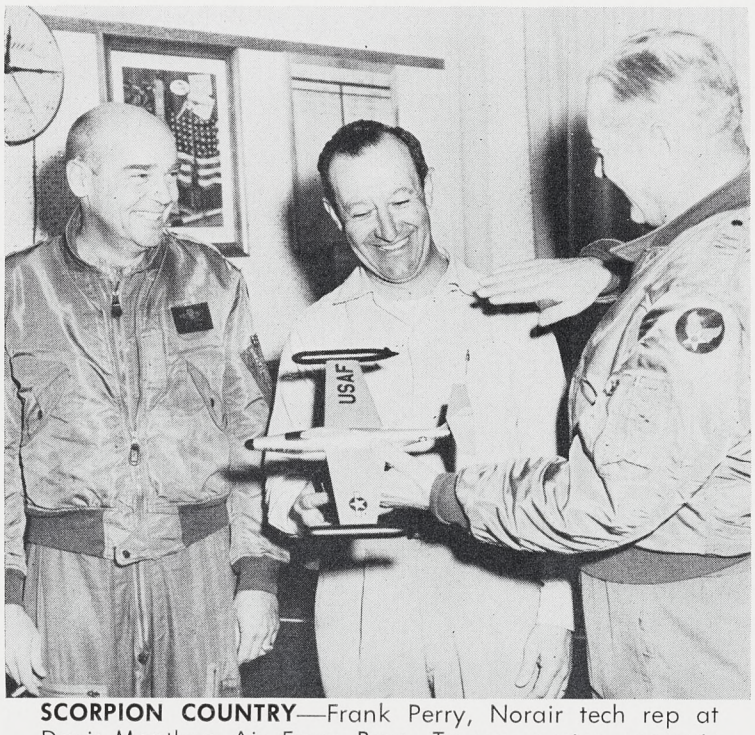
Firemen, Guards Hone Up at C-D Center

ACTION!—Norair team enters demolished building at defense center to remove injured as part of C-D training. In the foreground are McClure, Haab, and Foster. Observing through hole in the wall is Varay. Course was 200th presented by the City's Board of Public Works. Center is located in Chavez Ravine of Dodger-litigation fame.

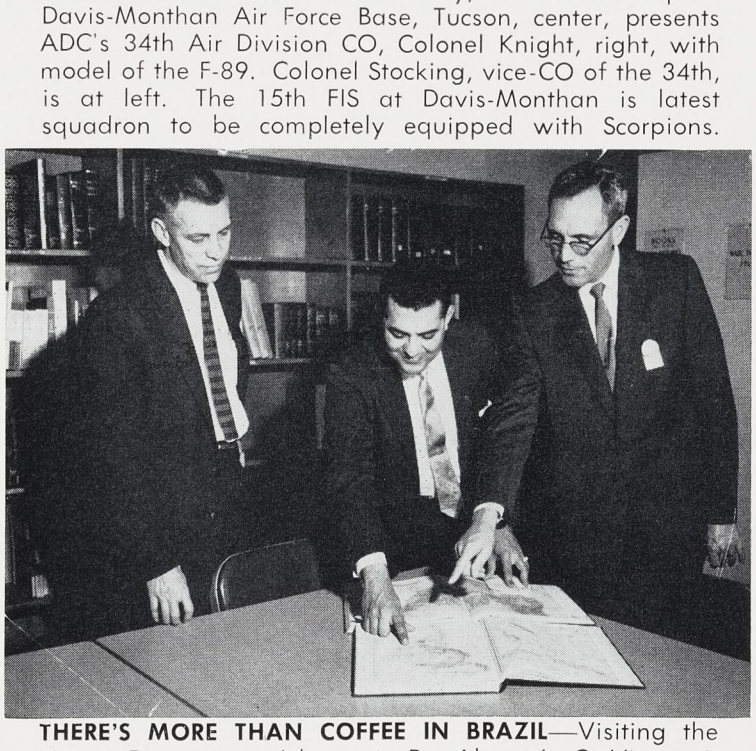
HIGHLY TRAINED—Most recent fivesome of over 50 Norcrafter firemen and guards go through Los Angeles City's Leo M. Strobel Civil Defense Center. From left: C. E. McClure, guard; C. L. Haab, guard; J. W. Landreth, fireman; J. W. Foster, guard; and Bob Varay, guard and exercise leader. Boys are shown with specified C-D garb. Rope for emergencies is part of C-D experts' equipment.



SCORPION COUNTRY—Frank Perry, Norair tech rep at Davis-Monthan Air Force Base, Tucson, center, presents ADC's 34th Air Division CO, Colonel Knight, right, with model of the F-89. Colonel Stocking, vice-CO of the 34th, is at left. The 15th FIS at Davis-Monthan is latest squadron to be completely equipped with Scorpions.

Norair News Pictorial

A DECADE OF PROGRESS—Bill Woolson, Norair Public Relations, right, and Lester J. Holoubek, Hughes Aircraft, both on "lend-lease" during recent Los Angeles County Heart Association drive, check campaign material to help the cause which fights against the nation's top killer.



THERE'S MORE THAN COFFEE IN BRAZIL—Visiting the Norair Engineering Library is Dr. Abner L. C. Vicentini, librarian of the Brazilian Technological Institute of Aeronautics, Sao Paulo. He is shown here comparing sizes of Brazil and the United States. (With its 49th state, the U. S. is slightly larger.) At Dr. Vicentini's left is Bill Jones, supervisor, Engineering Library; at right is Keith Thurston, general supervisor, Engineering Data and Services. Here on exchange program under auspices of International Cooperation Administration and U. S. Library of Congress, Dr. Vicentini visited Nortronics and Radioplane libraries also. Whirlybird trip to Van Nuys was the Brazilian's first.

TWIN-JET CLASSROOM—Air Force Academy cadets, Kerry D. Miller, at right on wing, and Gordon S. Savage, at left on ground, review F-89 takeoff procedures at Ellsworth AFB with 54th FIS Scorpion squadron men. Mr. Miller and Mr. Savage experience the real thing during checkout rides in F-89 on three-week tour of operations with the 54th. This "live" training is part of AF Academy training where selected young men of the nation are intensively trained for their role as regular officers in the U. S. Air Force.

BBSF Classified Ads

Items advertised in "For Sale" and "For Sale or Trade" categories are limited to a maximum of $50. Price must be stated.

Ads for agencies, commercial enterprises and private businesses are not accepted.

Deadline is noon Monday, nine days before publication.

FOR SALE

CAMERA CASE, Polaroid Land, cost $24.95, $14. EX 8-4032. A

VACUUM CLEANER, Kirby, $50. FR 6-6239. A

CHAIR, wrought iron, adjustable back, new upholstery, w/ottoman, $20. DA 6-1572. A

BUFFET, maple, 54", cost $119, $25. AX 4-0727. A

AIR PISTOL, Marksman, shoots BBs, darts & pellets, $5. FR 5-6095.

BROWNIE UNIFORM, size 8, $5. FR 9-9616. A

WRISTWATCH, lady's Benrus 17-jewel, pink gold, cost $85, needs new crystal, $20. Box 1503. A

REFRIGERATOR, Hotpoint 7.6-cu-ft, $50 FA 8-0980. A

FREEZER, 6-cu-ft chest-type, $50. AX 1-9236. A

WASHER, Kenmore automatic, $20. PL 1-7753. A

REFRIGERATOR, 1950 Servel 9-cu-ft, top freezer, $50. DA 9-3205. A

HOUSEHOLD FURNISHINGS, couch, chair, ottoman, table, $35; door, kegs of assorted nails, $15. OS 6-6604. A

STUDIO COUCH, paprika upholstery, w/ 2 bolsters, $50. FR 5-0402. A

LEATHERWORK EQUIPMENT, tools, templates, patterns, cost over $200, $50. OS 9-3418. A

CEMENT MIXER, electric, $50. OS 5-2159. A

DINING ROOM SET, Duncan Phyfe mahogany; table, 40"x62" w/17" leaf; chairs, 6; $50. PL 6-8736. A

PATIO BELL, 6" brass, $6. DA 7-9084. A

COUCH, convertible, gray, $10. FA 8-3306. A

RANGE, Gaffers & Sattler gas, chrome top, w/center griddle, timer & clock, $50. OS 5-8446. A

CAMPING EQUIPMENT, tent, 9'x12' umbrella-type; cots, 2 folding-type; lantern, Coleman; $40. FA 1-2284. A

WASHER, Blackstone, $50. OS 5-7414. A

DRUM, professional snare-type, $7.50. DA 6-4776. A

BED, double-size, orthopedic mattress, box spring, $50. FR 8-5328. A

REFRIGERATOR, Coldspot, $50. OR 3-0390. A

GARAGE DOOR, redwood, single, w/ overhead hardware, $10; extra set of hardware, $3. NE 2-2642. A

COUCH, convertible, modern, rose, w/ matching chair, $50. OS 9-2832. A

CAMERA, German-make 35-mm, f:2.8, LVS coupled range finder, flash syncro, $30. GL 4-7770. A

TABLES, blonde w/formica tops, coffee table, end tables, $15 ea. OS 5-4736. A

TV SET, Philco 14" console, needs picture tube, $10. DA 3-6759. A

REFRIGERATOR, Westinghouse 7-cu-ft, 5 yr old, $50. TO 2-3758. A

BEDROOM SET, blonde; bed, twin-size; dressing table w/mirror; $25. PL 4-0778.

SPEAKER ENCLOSURE, Karlson-type 15", unfinished, $35. OR 2-7341. A

HAND LOOM, 24" 4-treadle, $25. OS 6-3448. A

COFFEE TABLE, patio-type, $2.50. GR 7-1539. A

GUNS, Colt Lightning short-barrel .38, $20; Springfield 1884 cavalry carbine. $20. OS 5-4271. A

FURNITURE, panel bed, 54", walnut; chest, 4-drawer; $20. DA 9-9464. A

BABY FURNITURE, crib, 6-yr-size maple, w/mattress & teething rails, $35; play pen, folding-type, w/pad & teething rails, $10. FR 9-1859. A

RANGE, gas, $20. DA 3-3397. A

RECEIVER, Hallicrafter S40, AM/short wave, automatic volume control, band spreader, tone control, $35. Box 1501.

CAR COOLER, Thermador, $10. OL 6-2735. A

CAR ACCESSORIES, 1955 Ford; radio, heater, clock; $50. PL 5-3777. A

CORNER TABLE, dark mahogany, $10. FR 6-3178. A

CHAIR, green & wrought iron, adjustable back, w/ottoman, $20. DA 6-1572. A

VIOLIN, w/mute & case, $50. DA 4-5543. A

WANTED TO BUY

BOATING EQUIPMENT, boat, prefer 14'; engine, prefer 10-hp; trailer. EX 6-6823.

BICYCLE, girl's 26". FR 9-9616. B

SECOND TRUST DEED, private home. OS 6-4723. B

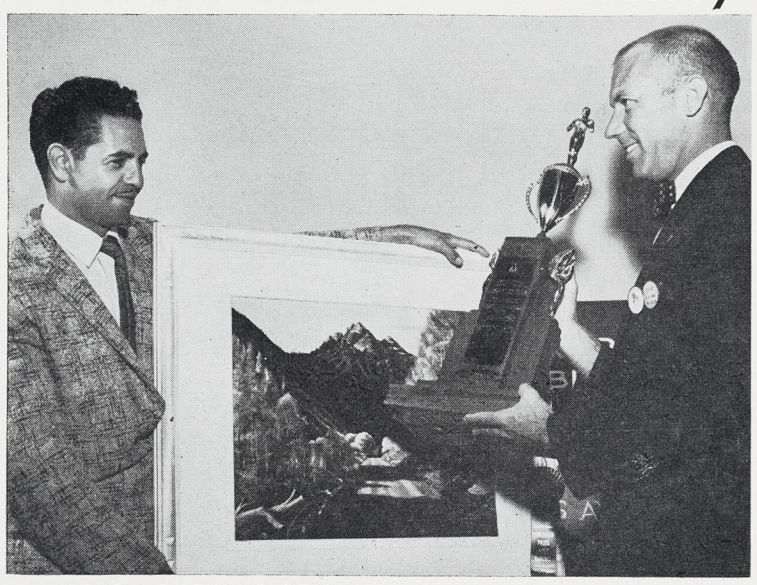
DRAFTING EQUIPMENT, French curve, beveled edge; triangle, 30°/60°, beveled edge; templates, circles, ellipses, miscellaneous. Box 1502. B

SUN LAMP, Box 1503. B

DRAFTING EQUIPMENT, machine, scales. PL 9-1089. B

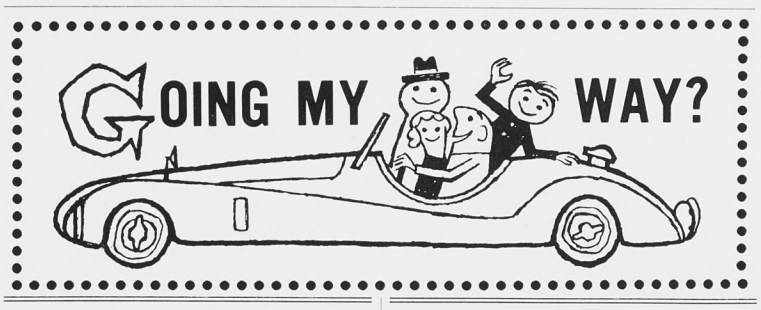
MOVIES, 8-mm. FR 6-0674. B

Daubers Easel into Money



AND BY POPULAR DEMAND—Sweepstakes winner was Milton Maldonado, Art Services, for his "Arizona Trails." Trophy, awarded on basis of Norcrafter ballots, was presented by Forrest Ayrest, NRC Art Club commissioner.

HAVE PALETTE FOR LETTUCE—Their green is not a laurel wreath but that Bank-of-America stuff. These beribboned canvases were daubed by the top artists in the recent 12th Annual NRC Purchase Prize Art Exhibit. From left: Trixi Johnson, 2nd, Class B; E. G. Henrickson, 1st, Class B; Milton Maldonado, Sweepstakes; Ken Tarbell, 1st and Honorable Mention (at feet), Class A; Nancy Reardon, 2nd, Class A; and Harold Wright, Honorable Mention, Class B. Not shown is Paul Nelson who also Honorable Mention'd in Class B. Division into two categories, professional and amateur, allowed for equitable comparison.



RIDES WANTED

7:00 a.m. — 3:45 p.m.

PALO VERDE AVE. & SPRING, Long Beach. Ed Cardarelli, HA 9-9055.

CARSON & ORANGE, Long Beach. G. J. Grummer, GA 7-4370. 2

FOR TRADE

TELESCOPIC SIGHT, Lyman 4X, w/ mounting equipment, trade for .30-06 reloading equipment. OS 5-2159. C

ENCYCLOPAEDIAS, World Book, complete 1959 set, trade for power mower, prefer 21" King-O-Lawn. PL 5-6610. C

SEWING MACHINE, Kenmore console, walnut, trade for portable Kenmore or Singer sewing machine. Box 1504.

PERSONALS

THANK YOU to Northrop Bloodbank for the 10 pints of blood so generously supplied during my husband's recent illness. The courtesy & efficiency of your staff lessened a heavy burden. HILDRED R. ROOMES. L

CONTACT WANTED w/party who backed into 1958 MGA next to railroad tracks on Tuesday, April 21, between 1 p.m. & 4:15 p.m. DA 5-0647. L

THANK YOU to all the many friends and coworkers of Jerry H. Leshner for the beautiful flowers. MRS. JERRY H. LESHNER.

THANK YOU to the NRC and our many friends for their sympathy & kindness during the loss of our beloved mother, Clara Wallace. BILL & MILLIE WALLACE.

GRATEFULLY we acknowledge your kind expression of sympathy. LOWELL W. MEYER FAMILY.

RIDES WANTED

7:30 a.m. — 4:15 p.m.

LINCOLN & STANTON, Anaheim. W. A. Day, JA 7-4270. 3

VAN NESS & 76th ST., Los Angeles. T. M. Falvey, PL 1-1339. 3

GRAMERCY & PLAZA DEL AMO, Torrance. Jo Ann Bacon, FA 8-0706. 3

DOTY & 112th ST., Inglewood. Shirley Baker, OR 7-7297. 3

8:00 a.m. — 4:45 p.m.

IMPERIAL & PARAMOUNT, Downey. June Henry. WA 3-1032. 5

CLARK & DEL AMO, Lakewood. Ken Stroud, TO 6-7493. 5

SANTA MONICA BLVD. & WESTERN. Hollywood. Harold Greer, HO 4-6094. 5

Miscellaneous — Split Shift

LONG BEACH BLVD. & OLIVE, Compton. (Hours: 4:15 p.m.—12:45 a.m.) Pat Miller, NE 2-3155. 10

RIDES OFFERED

7:30 a.m. — 4:15 p.m.

LINCOLN & STANTON, Anaheim. W. A. Day, JA 7-4270. 13

ROSECRANS & WILLOWBROOK, Compton. Judy Cassatt, NE 5-4886. 13

8:00 a.m. — 4:45 p.m.

CLARK & DEL AMO, Lakewood. Ken Stroud, TO 6-7493. 15

BEVERLY GLEN BLVD. & OLYMPIC, Los Angeles. R. E. Mathewson, GR 7-9830.

MANHATTAN AVE. & 2nd ST., Manhattan Beach. B. E. Peterson, FR 9-3128. 15

SANTA MONICA BLVD. & WESTERN, Hollywood. Harold Greer, HO 4-6094. 15

This Saturday Is Palmy Night for Luau Filberts

Muu-muus and exotic leis. Guitars and grass skirts. Poi and pig. This Saturday's luau, NRC-sponsored and hosted by Quality Control on an interdivisional basis, parlays island idylls for an evening of Hawaiian hoopedo.

At 6:30 p.m. May 9 the palm fronds part and the fun begins. Nero would have been overjoyed with the multi-course menu that consists of underground-barbequed pig, soy-sauce-marinated teriyaki beef, chicken, underground-baked yams, steamed rice, watermelon, pineapple, grapes, bananas, oranges, poi and coffee.

And to regale the trenchermen are the Polynesian Maidens, the stimulating Samoan Knife Dance, the Fire Dance. . .and more. After the show, the islanders-for-a-night may dance to the compelling rhythms of Ernie Tavares and his Serenaders.

The site of all these South Sea shennanigans is the Royal Palm Grove in Palos Verdes, where Western Avenue runs into the ocean.

Tickets at $6 each, tax included, may be obtained at any Quality Control office. And, of course, all Northrop Corporation personnel—be they from Norair, Nortronics or Radioplane—are welcome, as are their guests.

LASSOING KIDS WITH LENS SUBJECT OF NRC CAMERA CLUB LECTURE

The third in a series of Photographic Society of America lectures is on the docket for tonight's NRC Camera Club meeting.

The 45-minute tape-recorded lecture will be presented, with illustrations, by Dr. John W. Super, FPSA. Dr. Super will discuss how to make kids and cameras compatible—how to pose and to properly light young subjects.

Tonight's program is at 7:30 in the NRC Clubhouse, 175 No. Hawthorne Boulevard.

Commissioner Fred Armstrong also reminds Camera Club members of the black-and-white and stereo monthly competition two weeks from today, May 20.

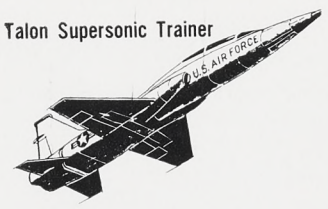
Appetite Driving Force in Sports Car Club Rallye

Seat-of-the-pants wheel-plying between challenges of the checkpoints will be served as a breakfast appetizer in the wee hours of Sunday, May 24.

The NRC Sports Car Club has posted intent to be up with the spring birds that day for its Breakfast Rallye. First car will be signalled out at 6:01 a.m. Scene of the daylight-saving sendoff will be the fishbone-painted vistas behind the Huddle, Crenshaw Boulevard and Imperial Highway.

For those whose hunger jogs them through the maze devised by Rallyemasters Hal Hunsberger and Gail York, the grand tour windup is O'Neil Park. Reviving sustenance consists of orange juice, coffee or milk, eggs, hash brown potatoes, and a 16-ounce steak.

Entry fee is $1.50 per car. Breakfast is $1.50 each, with a four-bit tab for the 12-and-under kiddies. Since the food must be ordered in advance, no post entries will be accepted. Registration deadline is Friday, May 15. Forms may be obtained at any Personnel Activities office.



T-38 Talon Supersonic Trainer

Northrop-Norair News

Issued biweekly by Norair Division of Northrop Corporation • Wednesday, May 20, 1959

Whitley Charles Collins
1898 — 1959

" . . . We gratefully recall . . . the things he stood for in this world . . . ."

from a prayer by the
Reverend Kermit Castellanos
at the funeral of Mr. Collins

Thomas V. Jones Elected To Northrop Presidency

Northrop Corporation's board of directors has elected Thomas V. Jones president of the Company, it was announced yesterday by William C. McDuffie, Northrop board chairman and chief executive officer. Mr. Jones, formerly a senior vice-president of Northrop, succeeds Whitley C. Collins, who died Tuesday of last week.

"Mr. Jones has long carried a full measure of responsibility for Northrop affairs, and has contributed heavily and creatively to the programs which have brought the Company to its present leading position in this industry," Mr. McDuffie pointed out. "Fortunately, Mr. Collins had built up a sound organization with logical lines of authority. We are confident that Mr. Jones' leadership, backed by our strong management team, will enable us to continue vigorously the progress we have made."

Robert R. Miller, a veteran Northrop executive, will continue to work closely with Mr. Jones as senior vice-president and a director of the Corporation, the directors stated.

In other action, the board assigned James Allen Corporate vice-president and assistant to the chairman of the board. Mr. Allen previously had been vice-

(See PRESIDENCY, Page 2)

THOMAS V. JONES

Nolan Visits Boeing, Talks Manufacturing

Vice-president and General Manager Dick Nolan visited with Boeing officials in Seattle last week.

During a two-day series of conferences, Mr. Nolan reviewed Norair's subcontracting support of that company's manufacturing programs and presented our newly developed capabilities both in

(See NOLAN, Page 2)

CORPORATE ANNOUNCEMENT

To: All Personnel

My first action as your president is to extend this word of greeting to all of you, and to express my confidence in the future of Northrop and in each of its operating Divisions.

It is not an easy thing to follow a man like Whit Collins. My job is made easier by the efficient organization built up under his leadership.

The Corporate officers and the general managers of the operating Divisions have now worked together as a team for some time. We will continue to work together in the same way. No changes are contemplated.

I do not intend to minimize our problems. Neither do I underestimate the strength that your work has given this Company. I want to commit your work, as I have my own, to a ceaseless hard drive to further strengthen this Company's position.

Thomas V. Jones
President

NORTHROP–NORAIR

NEWS BRIEFS

SNARK ALERT—Day and night, around the clock, a production Snark is now on operational Presque Isle-type alert at Northrop Field. Norcrafters on the program from Missile Flight Test group, Sal Xifo, chief, are on 24-hour shift and will remain so until the missile alert capability, under military operating conditions, is proved with a wide margin. The alert is being directed by Rulon Bailey, supervisor. Test Engineer on the program is Harold Dawson Nortronics engineers are participating . . . Several alert "dry runs" will be undertaken. The entire program will last for several weeks . . . Ground support equipment manufactured by Nortronics and used in the tests is identical

(See NEWS BRIEFS, Page 2)

Dignitaries View N-156F In Rollout

The N-156F, Norair's multipurpose Freedom Fighter, is due to be unveiled in a special showing for foreign government attaches and foreign press representatives on Memorial Day, May 30.

Northrop-International will host the visitors and conduct the ceremonies.

The new airplane, now nearing completion in the Advanced Production area, will be rolled out at midday and stationed before the flags of all the NATO and SEATO nations.

Dignitaries from the European

(See ROLLOUT, Page 2)

Second T-38 Makes Debut at Edwards Armed Forces Day

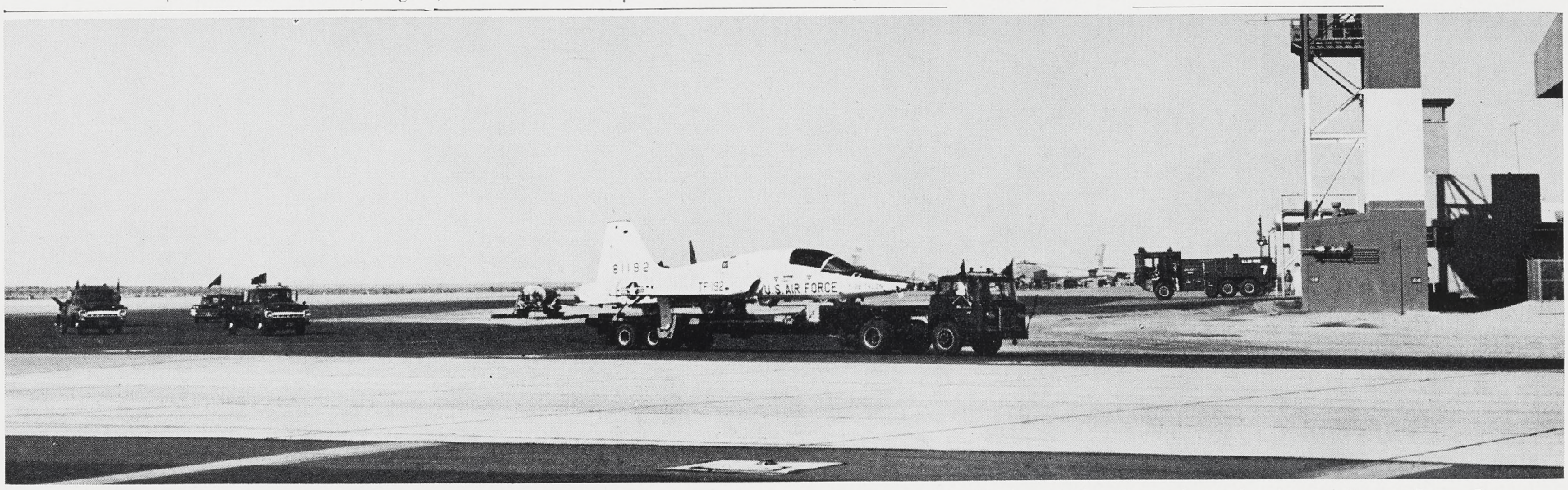
The second T-38 was trucked to Edwards Air Force Base last week. And, immediately upon arrival and unloading, the airplane was put on static display as a feature of Armed Forces Day. Many thousands of people from Southern California, including many Norcrafters, journeyed to the Base to see the nation's newest and fastest.

This is actually the first general public display of the Talon. (See story, page 2, on first television feature appearance.)

The airplane is expected to make its first flight in approximately 30 days.

Meanwhile the flight program

(See TALON, Page 2)



EDWARDS ARRIVAL—Second T-38 Talon arrives at Edwards where it will join the Air Force-Norair flight program now under way. This airplane was on static display at the desert base for Armed Forces Day. Expect first T-38 to have 16 flights in by press time. (See story, this page.)

SAC Promotes Colonel Beck To Missile Wing Commander

Colonel Richard W. Beck, formerly commander of the 556th Strategic Missile Squadron now in Snark training at Patrick Air Force Base, has been promoted to wing commander at Presque Isle and will command the Snark-equipped 702nd Strategic Missile Wing.

The 702nd will be the first U. S. Air Force operational intercontinental missile wing. It is an element of SAC's Eighth Air Force, headquarters, Westover, Massachusetts.

Colonel Beck received his early missile weapon system training here at Norair.

The USAF-Northrop Snark SM-62, now in production at Norair, is the nation's first successful intercontinental guided missile and is capable of delivering a nuclear warhead to any military target in the world.

Lt. Col. L. H. Johnson will succeed Colonel Beck as commander of the 556th Squadron, which will continue training in the Snark program at the Air Force Missile Test Center at Patrick AFB.

Presidency—

(Continued from Page 1)

president and assistant to the president.

Immediately after being elected to the Corporation presidency, Mr. Jones left for Washington to resume talks with the U.S. Air Force and Department of Defense officials, relative to additional ways in which Northrop can contribute to the national defense program.

Mr. Jones, 39, has been identified with the aircraft industry and related scientific endeavor for the past 18 years.

He joined Northrop in 1953 as assistant to the chief engineer, and became successively deputy chief engineer and director of development planning with responsibility for the formulation of Northrop's long-range planning. He was elected Corporate vice-president for development planning in 1957, was elevated to senior vice-president in 1958 and was named a member of the board of directors early in 1959.

He serves as a consultant to the aeronautic and space vehicles panel of the Scientific Advisory Board of the Air Force and, until recently, was a consultant to the Assistant Secretary of Defense for research and engineering.

A native of Pomona, California, Mr. Jones was graduated with great distinction from the Stanford School of Engineering in 1942. After six years on the engineering staff of the Douglas Aircraft Company, he was called to Brazil after World War II to help establish the Institute of Technology for Aeronautics for San Jose dos Campos. He spent four years in Brazil as a member of the faculty of the Brazilian Institute of Technology and was technical advisor to the Air Ministry. For a number of years Mr. Jones was also a member of the staff of the Rand Corporation, Santa Monica, where he took a leading position in the Rand scientific advisory program for the U.S. Air Force.

TALON FEATURED ON KCOP SERIES

Norair's supersonic T-38 trainer will make her feature television debut on Monday, May 25, at 8 p.m.

On that evening, KCOP, channel 13, will present the Talon in an exclusive 30-minute program on Dr. Martin Klein's "Adventure Tomorrow" series.

"Adventure Tomorrow" will show familiar assembly line scenes of the Talon, will show her being moved to Edwards, and will climax the half-hour by showing the T-38 in flight over the desert with Pilot Lew Nelson at the controls.

Dr. Klein will interview Lew during the program.

The show will be kinescoped and will be available for loan to clubs and meetings. Call Bill Cox, assistant director of Public Relations, extension 1801.

Talon—

(Continued from Page 1)

on the first T-38 continues at a rapid pace.

Milt Kuska, director, Flight Test Engineering, reports that, in all probability, the Talon would have 15 to 16 flights in by press time.

Stated Mr. Kuska, "The Talon flight program is on schedule. Cooperation from the Air Force Flight Test Center representatives has been excellent.

"Early integration of the Air Force T-38 program is taking place smoothly," Mr. Kuska said. "As was reported in last issue of the *Norair News*, the Talon is the first airplane to come under the new Air Force plan where military and the contractor conduct their programs side by side. This saves a great deal of time and money and gets the airplane operational much sooner. We are proud of the Talon showing."

HOURLY FOLK TO RECEIVE 3% RAISE MAY 28

A general wage increase for all Norair hourly personnel has been announced by Dick Nolan, vice-president and general manager.

Each hourly Norcrafter receives an increase equal to three per cent of his base rate of pay or seven cents an hour, whichever is greater. This raise was effective last Monday and will first be reflected on the checks issued May 28.

The maximum and minimum of the rate range of each hourly job classification was also upped by three percent or seven cents an hour, whichever is greater.

Mr. Nolan noted that an announcement regarding salaried Norcrafters would be made in the near future.

Northrop-Norair News

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CHARLES BARR, Director

CHARLES BRADFORD, Editor

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Nolan—

(Continued from Page 1)

transport and cargo, and guided missile fields.

Mr. Nolan conferred with C. B. Gracey, Boeing Airplane Company vice-president in charge of Operations, at the Seattle Division, where Boeing's Minuteman and B-70 work is being undertaken.

Boeing is prime contractor on the Minuteman and is associated with North American Aviation on the B-70.

Mr. Nolan presented our Nortobraze stainless steel honeycomb capability as particularly applicable to manufacturing processes in this area with emphasis on the B-70.

Nortobraze represents the latest state-of-the-art advance in this new field and is characterized by high-speed, low-cost production, without limit as to size of components. Shapes, such as contours and tapers, are not a limiting factor with Nortobraze. Another Nortobraze feature is elimination of long lead-time for tooling and tool design. Boeing Procurement is at present evaluating the Nortobraze process and its application to their products.

Mr. Nolan also visited Boeing's Pilotless Aircraft Division and conferred with Vice-president and General Manager Lysle Wood.

In addition to the Minuteman, Boeing is prime contractor on the Bomarc missile and also has prime proposals submitted on Dyna-Soar. Decision from the Air Force on Dyna-Soar is expected this month.

Extension of Norair's capabilities in support of these projects was discussed. Norair's experience and technological knowhow gained on the Hawk and Snark, with our existing backup facilities and equipment tailored to missile work, were presented.

Norair is now associate bidder with Radiation, Inc., of Florida, on instrumentation and telemetry for the Minuteman.

At Boeing Transport Division, Renton, Washington, Mr. Nolan met with Boeing officials, Director of Materiel Joe E. Miles; Vice-president and General Manager J. B. Connelly; Assistant General Manager T. E. Gamlem; and Manufacturing Manager R. L. Regan.

In addition to checking our performance on the 707 and KC-135 contracts now in the Norair shop, Mr. Nolan covered aspects of our proposals with Boeing to the government on a new transport design. This program, if successfully negotiated by Boeing, would present an opportunity to extend subcontracting operations over our existing work of this type now in progress on the 707 and KC-135.

Although the trip was primarily of Norair interest, Mr. Nolan represented the Company on Corporate matters and, in addition, presented Nortronics capabilities in several areas.

In reviewing highlights of the trip, Mr. Nolan stated, "I am gratified to be able to report that Boeing is pleased with Norair results on the 707 and KC-135 work in this Division.

"They are continually interested in Norair's cost reduction trends on these contracts. They are also interested in our other advances, such as supplier team communications and our aggressive development program in seeking better manufacturing processes.

"Strict attention to quality, schedules and cost controls is necessary to ensure that we will be able to maintain our established reputation as an efficient producer and be in a position to obtain additional work of this type as it becomes available."

Rollout—

(Continued from Page 1)

area will have arrived the day before by TWA's first 707 jet flight from Washington to Los Angeles. Takeoff of this flight will be from Baltimore's Friendship Airport.

They will be brought to Northrop Field at 9 a.m., Saturday morning, where a continental breakfast will be served in the Product Display Building.

A group of Japanese representatives will also arrive on the first flight of the newly inaugurated Japanese Airline service from Tokyo to the United States.

Official welcome and briefings on the Freedom Fighter by Company officers will then take place.

The entourage will move to flight field where rollout ceremonies are to be staged.

All visitors will be given ample opportunity to closely scrutinize the N-156F, to inspect her cockpit, and to ask questions about her performance and ability.

The visitors will tour plant production areas and other Norair points of interest as part of the occasion.

NEWS BRIEFS

(Continued from Page 1)

to that which will fire the missile at Presque Isle. When the alerts are finished here, the missile will be shipped to Florida where it will be actually tested under simulated battle conditions.

CUSTOMER COMMUNICATIONS—Procedure for complete coordination of Norair-customer communications is now in the administration planning stage, it has been announced by John R. Alison, vice-president, Customer Relations. "It is extremely important (1) that all contacts with the customer be timely and significant; (2) that the information presented on projects be factual and up-to-date with the latest advances; and (3) that all Norair people officially assigned to represent the Company on business matters be completely informed on established customer requirements and policies." . . . Procedural EBs and outlines are now in the process of being revised and updated for management approval.

SAC LAUNCH PROFICIENCY—George Douglas, vice-president, Engineering, reports that SAC men at Cape Canaveral are showing fine progress in Snark launch techniques. "Since the SAC 556th entered the Snark training program they have shown consistent day-by-day improvement in missile handling and firing procedures. The cooperation between Norair's Missile Test group and the SAC Snark squadron is also outstanding. The sincere ability of the two organizations to work together as a team has contributed in great measure to the capability of the SM-62 weapon system."

BBSF Classified Ads

Items advertised in "For Sale" and "For Sale or Trade" categories are limited to a maximum of $50. Price must be stated.

Ads for agencies, commercial enterprises and private businesses are not accepted.

Deadline is noon Monday, nine days before publication.

FOR SALE

WASHER, Westinghouse Duomatic, $50. GA 2-8457. A

OUTBOARD ENGINE, Sea King 12-hp, $50. FR 6-3992. A

MOWER, 16", $8. OS 6-3370. A

WASHER, ABC wringer-type, $15. OS 6-1588. A

INDIAN HEAD PENNIES, 10, $1. FR 8-2055. A

SAMPLE KIT, Avon products, cost $10, $4. Box 1603. A

LAZY SUZAN, maple base, 5 lt & dk green ceramic sections, $2. FR 9-9616.

RANGE, gas, $50. LA 2-7489. A

SAXOPHONE, C-melody-type, satin finish, w/case, $50. DA 9-1040. A

RECORD PLAYER, RCA 3-speed portable, w/new sapphire stylus, $35. FR 6-1454.

BED, youth-size w/guard rails, blonde, $20. OS 6-6010. A

MOWER, 18", $8. OR 7-1201. A

BOAT TRAILER, convertible to camping-type, $35. TO 6-7404. A

TABLES, maple, 2 yr old; coffee table; end tables; $50. DA 9-8447. A

GOLF CLUBS, Walter Hagen, 4 woods, irons, putter, w/bag, $50. DA 9-4279. A

VOLTOHMMETER, AC/DC, also measures current, w/case, $15. OS 6-2803. A

WEDDING GOWN, size 13-14, w/chapel-length train, veil & slip, cost $150, $50. FR 9-9278. A

PLAY EQUIPMENT, child's pool table, 40"x22"x26", w/1" cue balls, $10. FA 8-5958. A

ENGINE, 1.75-hp midget-type, $20. FR 5-6095. A

TRAILER, 4'x6' box-type, redwood sides, steel bed & springs, $25. FR 4-8036. A

VIOLIN, ¾-size, w/case & stand, $25. OS 6-1648. A

SPEAKER, Lansing, $47. GR 7-9830. A

HEATER, Fan-Glo electric, $13. FR 6-2536. A

MUSIC EQUIPMENT, record changer, 3-speed automatic, $25; table radio, AM/FM, w/phono jack, $25. DA 3-0719. A

CAMERA, 35-mm, w/case, flash unit, filter lens & accessory bag, $30. DA 9-7145. A

SPEEDBOAT, 9' skimmer-type, w/controls & steering wheel, new paint, $50. OR 4-0776. A

LAMP, TV-type, covered-wagon-model, $12.50. PL 5-6610. A

TRAVEL PACK, leather bound, rubber lined, $5. GR 7-1539. A

WEDDING GOWN, size 12, lace & tulle, floor length, w/chapel train, cost $125, $50. OS 6-1288. A

WAGON, steel, cost $12.95, $7.50. AX 4-0727. A

RANGE, tabletop-type gas, white porcelain, $25. UN 4-7673. A

SCREEN/ROOM DIVIDER, Japanese-type 4-fold, black & white, $35. OR 2-5782.

REFRIGERATOR, 8 cu ft, w/freezer, 10 yr. old, $30. OS 5-1415. A

ENGINE, 5- to 8-hp air-cooled inboard-type, w/clutch, $40. FR 2-8059. A

BED, mattress, box spring, adjustable steel frame, $25. FR 5-1377. A

ANTIQUES, clock, wall-type, $12.50; bench, fireside-type, $5; andirons, brass, $5; chandelier, $6. OR 4-2623. A

ROLLER SKATES, woman's size 8½, shoe-type, $15. Box 1602. A

TABLE, blonde, w/non-mar tops; end tables, 2, step-type; coffee table; $45. PL 1-1725. A

WANTED TO BUY

TRAIN EQUIPMENT, HO-gage, OS 6-4723. B

DRAFTING EQUIPMENT, French curve, beveled edge; triangle, 30°/60°, beveled edge; templates, circles, ellipses, miscellaneous. Box 1603. B

BICYCLE, girl's 26". FR 9-9616. B

DESK, child's. Box 1604. B

PROSPECTOR'S DREDGING UNIT, portable (under 75 lbs.). Box 1601. B

WARDROBE, portable, prefer cardboard. PL 6-0490. B

FREE (to be given away)

PARAKEET, w/cage. PL 6-0419. D

KITTENS, 2; male, female; gray, tabby. FR 6-1367. D

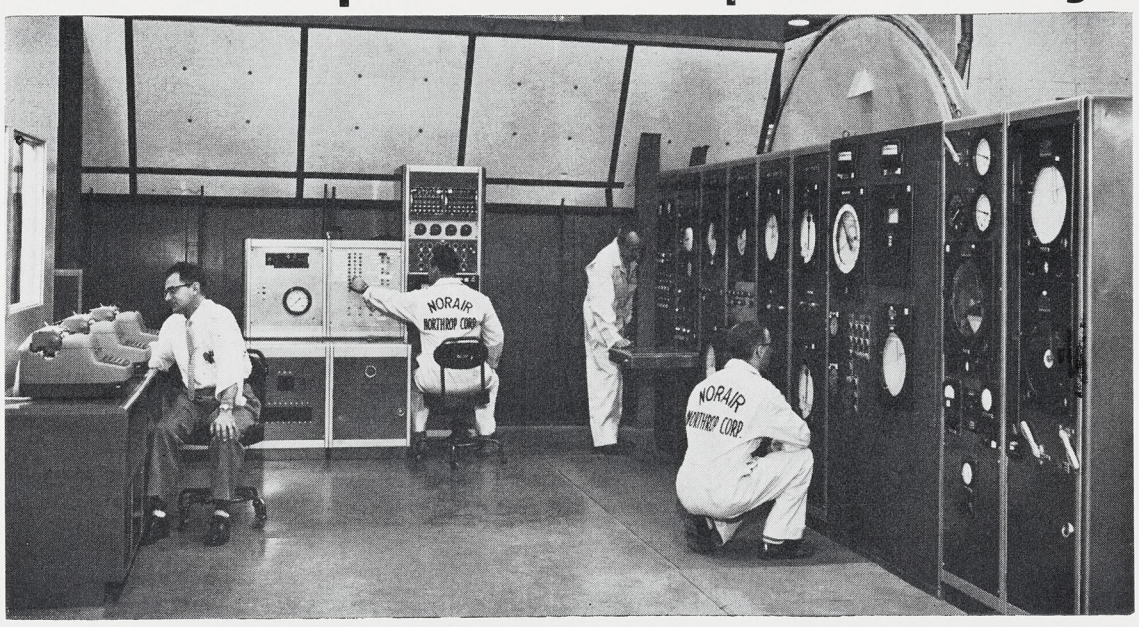
PERSONALS

DOG CARE WANTED, spayed Dalmatian, must have fenced yard, food & board paid for, temporary. Box 1605. L

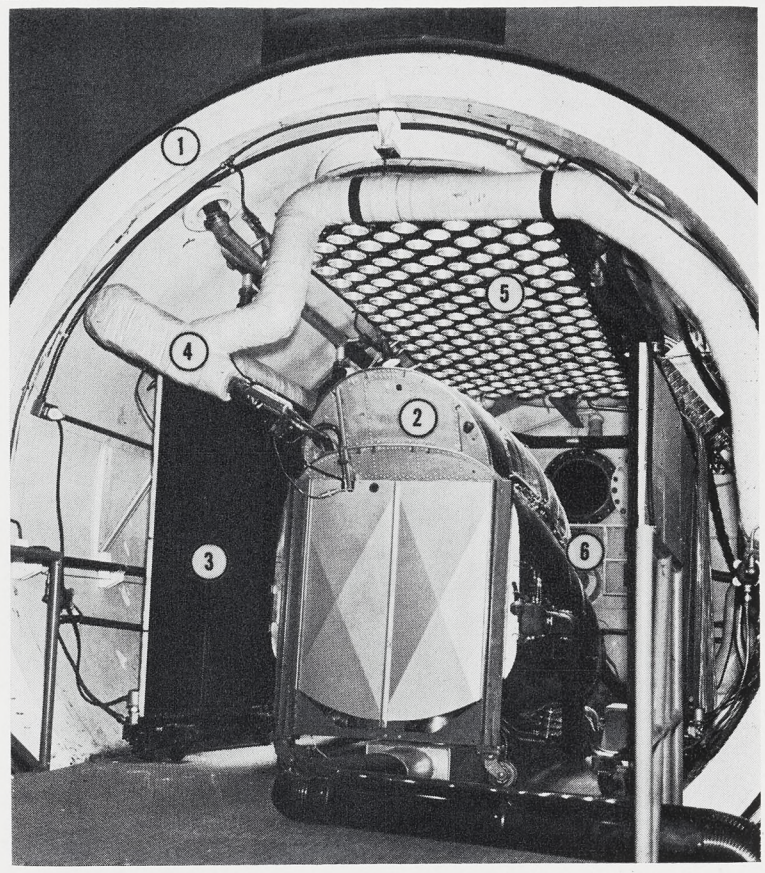
FOR SALE OR TRADE

COUCH, green, w/matching chair, $10 or trade for single-size bed. AX 4-7852.

T-38 Tests Span Wide Temperature Range



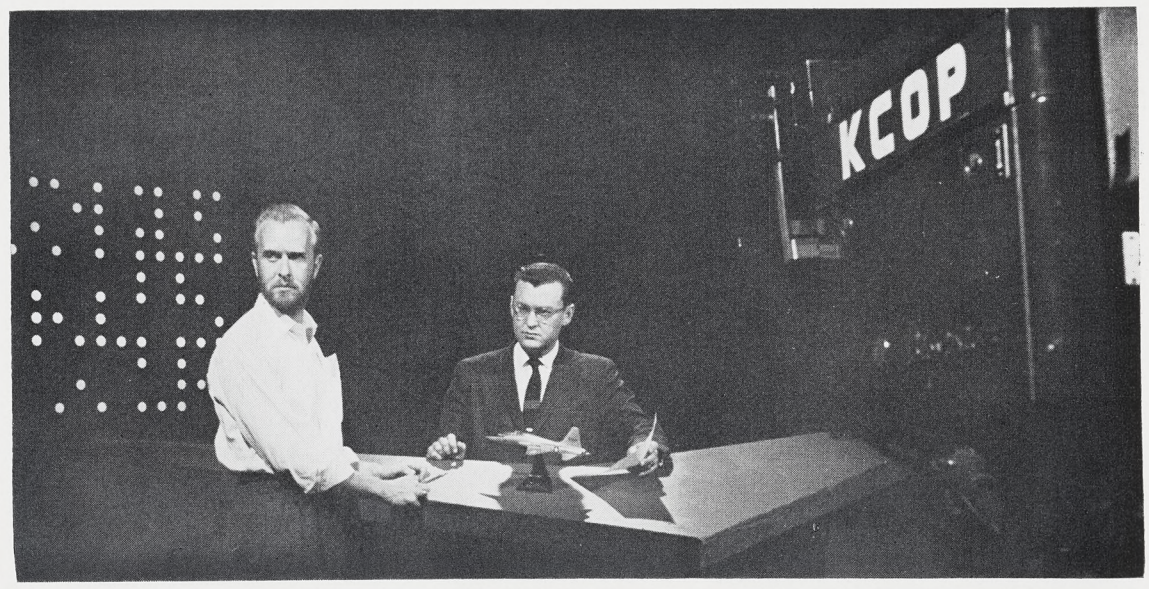
PRECISION MONITORING— As the T-38 equipment is subjected to exact environment flight and ground conditions, the findings are recorded here. Two hundred temperature channels and 100 pressure channels send the information. Test Program Engineer Ken Klier is at left observing automatic typewritten log; next is Julian Torbett, leadman, at the specimen control console; Carl Schmeuszer, test mechanic, and Harold Johnson, facility operator, are at the facility controls.



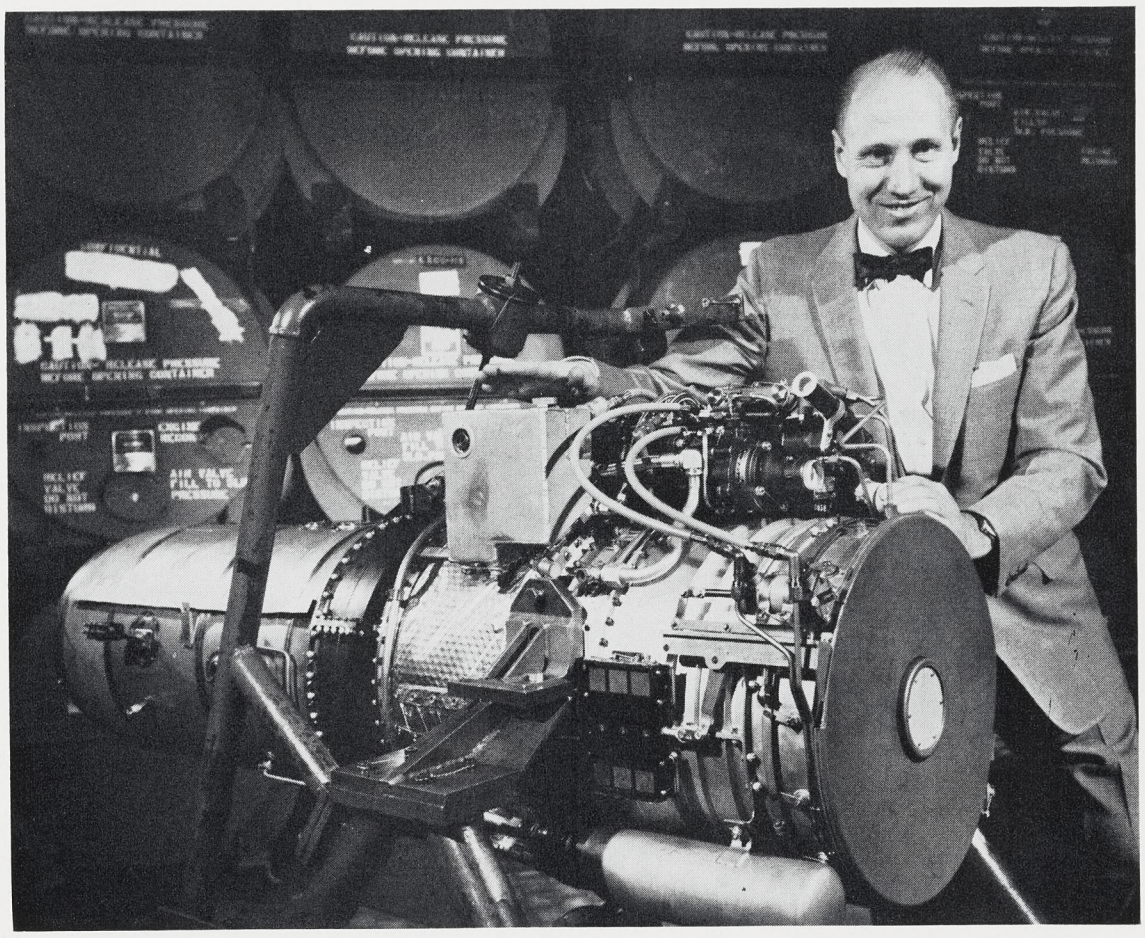
FLIGHT SIMULATOR — Environmental Test Lab's clean new setup for T-38 cabin and equipment conditioning system tests is now in full program operation. Simulator, the 11-foot altitude chamber, now provides all conditions—ground and altitude—and complete range of temperatures from 80° below to 160° above. See callouts for environmental and specimen equipment: (1) altitude chamber shell; (2) T-38 "thermal mockup" forward section; (3) liquid nitrogen —320°F bank; (4) engine bleed air; (5) solar radiation light bank; (6) ram air. Nitrogen bank is unique heat exchanger in environmental tests, simulates heat transfer by radiation at extreme altitudes.

MTF KINGPIN KEGLERS—Florida five, who recently nabbed top spot in the Contractor League at Eau Gallie, are, from left, C. A. Richardson, supervisor, Manufacturing Control; Team Captain R. L. "Bud" McAlpine, supervisor, Property Control; NRC Bowling Club Commissioner M. O. Gehrke, Missile Services; M. H. Lafferty, general supervisor, Operations Services; and J. H. Weaver, supervisor, Materiel. Not shown is F. R. Rantz, Electromechanical Design.

News Pictorial



TUNE IN CHANNEL 13—T-38 Talon will be half-hour feature on KCOP's "Adventure Tomorrow" Monday night, May 25, 8 p.m. At right is Dr. Martin Klein, narrator, and George Van Valkenburg during production of the program. Bill Cox, Norair Public Relations, will have show kinescope for loan to groups. See story, page 2.



TALON POWERPLANT—First official view of the J-85 turbojet engine produced by General Electric is shown above with GE man H. T. Hokanson, manager of the J-85 project.

THOUSAND-HOUR MAN—Captain "Jack" Jeranek, USAF Adviser Radar Observer with the Milwaukee ANG, was presented model Scorpion by Lt. Col. Thomas F. Bailey, 128th Fighter Group commander, as he stepped from the back seat of an F-89D after logging his 1000th hour in Norair's all-weather fighter. Captain Howard Stroschin, Squadron Operations officer, was pilot on this flight.

Hawaii Next Lure in NRC Travel Club Duffel Bag

This Saturday, the old travelogue signoff cliche, "And as the golden sun slowly sinks in the west. . .", will quicken with new life. The NRC Travel Club peregrinators are looking west . . . and thoughts of Waikiki, backed by the Koolau and Waianae, are heady brew.

In a sounding board for Hawaii's becoming the next entry in the Travel Club log, members will consider a possible package-deal trip.

To set the Sandwich Islands scene, this Saturday's gettogether is "Hawaii Night," replete with hula entertainment, a motion picture, and orchids to the gals. And all free.

As usual, the meeting will take place at the NRC Clubhouse, 175 North Hawthorne Boulevard, Hawthorne. Time is 8 p.m. Travelers' attire will be casual in nature, Hawaiian in mood.

Gal Set Skeet Sights On Trophy, Nailed It

The tender gender has toppled another icon.

In the May 2 NRC Skeet Club shoot, markswoman Mrs. Pat Talmadge bull's-eyed her way to a trophy in Class C, with the respectable score of 59-75. According to Walt Graves, commissioner, this is the first time a lass has walked off with top honors in any Northrop shooting competition.

Winners in the other classes were Jim Talmadge, 70-75, Class A; Ben Quan, 67-75, Class B; and Les Zimmerman, 43-75, Class D.

FISHING CLUB CASTS OFF WITH FIRST MEET

First meeting of the newly activated Fishing Club will be on Wednesday, May 27, at 7:30 p.m., in the NRC Clubhouse.

Acting Commissioner Art Kraft notes that, in addition to formulating plans for the upcoming season, this sendoff meeting will feature a movie and a special guest speaker.

bloodmobile

WEDNESDAY, MAY 27

9 a.m.—2 p.m.

contact your clerk for information and donor forms — or call extension 2784

Whitney Base Staked Out As Three-day Campsite

Whitney Portal is campout site for the NRC Camping Club over the three-day Memorial Day weekend.

A pot-luck dinner around the campfire sets the scene Friday evening. Saturday's scouting around will include visits to movie sets in the area, as well as camera-painting the scenery.

Portage to Whitney Portal, which is near the base of Mt. Whitney, will be by way of U. S. Highway 6, with a left turn at the Chevron station in Lone Pine. Nineteen more miles. . .and the NRC signs point the way.

RIDES WANTED

7:00 a.m. — 3:45 p.m.

IMPERIAL & NORWALK BLVD., Norwalk. Z. L. Kirkham, UN 3-0038. 2

7:30 a.m. — 4:15 p.m.

CENTURY & INGLEWOOD, Inglewood. M. Scoble, OR 1-3837. 3

COMPTON BLVD. & HARRIS, Compton. Beaulah Hayes, ext. 2521. 3

CRENSHAW BLVD. & 231st ST., Torrance. M. J. Millas, DA 5-1324. 3

HAWTHORNE BLVD. & WOODBROOK, Rollina Hills. W. R. Prassas, FR 7-1244.

8:00 a.m. — 4:45 p.m.

EL SEGUNDO BLVD. & NORMANDIE, Gardena. Clarence Weiland, DA 9-4279.

OLIVE & WILMINGTON BLVD., Compton. S. M. McClintock, NE 8-4603. 5

PURCHE & 129th ST., Gardena. Sandra Wilson, FA 1-2174. 5

COMPTON BLVD. & WESTERN, Gardena. Myrtle Tanner, DA 9-2500. 5

HINDRY & 93rd ST., Los Angeles. Edith Farkas, OR 7-7468. 5

AIRPORT & 96th ST., Los Angeles. R. E. Clooney, OR 2-1731. 5

KINGSPINE & SILVER SPUR, Rollina Hills. W. H. Fisher, FR 5-5436. 5

KNOTT & SPRING, Buena Park. Leonard Schroedter, GA 2-8457. 5

GARDEN GROVE & LOS ALAMITOS, Los Alamitos. Barbara Hallock ext. 1257 5

4:45 p.m. — 1:15 a.m.

PALOS VERDES BLVD. & TORRANCE BLVD., Torrance. R. R. Olson, ext. 2043.

Miscellaneous — Split Shift

KORNBLUM & 139th ST., Hawthorne. (Hours: 4:15 p.m.—12:45 p.m.) Beverly Winik, ext. 457. 10

RIDES OFFERED

7:30 a.m. — 4:15 p.m.

HAWTHORNE BLVD. & WOODBROOK, Rollina Hills. W. R. Prassas, FR 7-1244.

8:00 a.m. — 4:45 p.m.

AIRPORT & 96th ST., Los Angeles. R. E. Clooney, OR 2-1731. 15

KINGSPINE & SILVER SPUR, Rollina Hills. W. H. Fisher, FR 5-5436. 15

KNOTT & SPRING, Buena Park. Leonard Schroedter, GA 2-8457. 15

CHERRY & 7th ST., Long Beach. R. I. Moeller, GE 4-8450. 15

NRC Good Time Table—June

For enrollment or information on activities listed below, call or contact Personnel Activities, Plant One, extension 2784. All clubs meet at the NRC Clubhouse unless otherwise noted.

ARCHERY (days), Wes Williams
Meet Wednesdays, 7:30 p.m.—movies 1st Wednesdays. Archery classes now in session.

ARCHERY (nights), Ray Mechling
Meet at 513 W. 146th St., Gardena, 3rd Sundays.

ART CLUB, Forrest Ayrest
Meet in Annex Thursdays, 7 p.m. Models furnished by NRC.

ASTRONOMY
Meet 2nd & 4th Mondays, 7:30 p.m. Sixth lecture in series June 22.

BIBLE STUDY, Warren LaSalle
Plant I—Daily, 11:30-12:15, Tool Design Bldg; 11-11:45, 5566 Conf. Room. Plant II—Mondays & Thursdays, 12-12:45, Conf. Room 2. Eng. Center—Daily, 12-12:45, Reliability Conf. Room.

BOAT CLUB, Ken Payne
Meet 1st Wednesdays, 7:30 p.m.

BOWLING, Dave Carney
Summer leagues now rolling.

BOY SCOUTS, Sid Cohan
Sea Scouts, Intermediates, Cub Scouts. All Norcrafter boys welcome.

CAMERA CLUB (days), Fred Armstrong
Meet 1st, 3rd & last Wednesdays, 7:30 p.m

CAMERA CLUB (nights), John Newman
Meet 1st & 3rd Saturdays, 8 p.m.

CAMPING CLUB, Fred Brant
Meet 1st Mondays, 7:30 p.m.

CHESS CLUB, Bill Henderson
Facility-wide tournament in progress.

GEM & MINERAL CLUB (days), Ray Cote
Meet 2nd Wednesdays, 8 p.m. Mineralogy classes Thursdays, 7-9 p.m.

GEM & MINERAL CLUB (nights), Victor Lincoln
Meet 1st Wednesdays, 1:30 p.m.

GOLF
Rio Hondo June 20.

GUN CLUB (days), Robert Raines
Meet 3rd Wednesdays, 7:30 p.m.

KNITTING, Nina Shannon
Meet Thursdays, 7:30 p.m.—instructions each meeting.

MIXED CHORUS
Meet Tuesdays, 7:30 p.m.

MODEL RAILROAD, Jack Wilson
Meet in Annex Thursdays, 7-10 p.m. Visitors welcome. Need electricians, carpenters & scenic artists to help with new layout

ORGAN CLUB, Gail Skinner

PHILATELIC CLUB, Eugene Richardson
Meet 2nd & 4th Monaays, 7 p.m.

RADIO CLUB
Meet last Thursdays, 7:30 p.m. Radio code class meets Wednesdays, 7:30 p.m. NRC's station is W6VPZ.

SKEET CLUB, Walt Graves
Meet alternate Saturdays, June 13 & 27, at Rancho Angellis Range, Main & Broadway, 10 a.m.

SKI CLUB
Meet 4th Wednesdays, 7:30 p.m.

SKINDIVING (days), Ralph Gonzales
Meet 3rd Mondays, 7:30 p.m.

SKINDIVING (nights), Lillian Kemble
Meet 3rd Wednesdays, 1 p.m.

SOFTBALL
League play Mondays, Sportsmans Park; Wednesdays, Rosecrans Park; Thursdays, Lennox Park.

SPORTS CAR CLUB, Jack Kirkpatrick
Meet 2nd Thursdays, 7:30 p.m.

SQUARE DANCING, George Sanborn
Beginners' class at Henry Clay Jr. Hi Fridays, 8-11 p.m.

SURF FISHING, John Pawlicki
Meet 1st Tuesdays, 7:30 p.m.

TABLE TENNIS, Robert Burke

TENNIS, Raul Arredondo
Meet 1st Mondays, 7:30 p.m. Practice & instruction at El Camino Jr. College Saturdays, 10 a.m.

TOASTMASTERS 212 (days), John Walker
Meet at Cockatoo Inn Thursdays, 6:30 p.m.

TOASTMASTERS 1398 (nights)
Meet at Western Avenue Country Club Thursdays, 12:15 p.m.

TOASTMASTERS 2583 (days), Walt Brown
Meet at Paul's Club Alondra Mondays, 6:15 p.m.

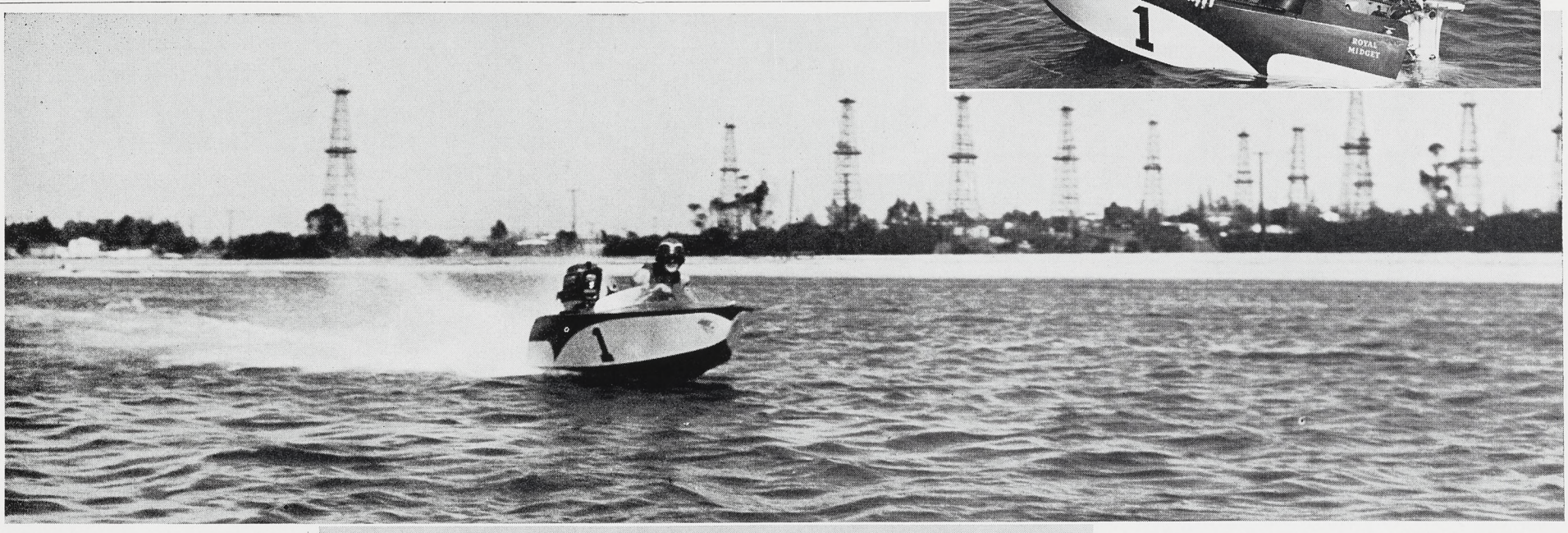
TRAVEL CLUB, Howard Cornelius
Meet 4th Mondays, 7:30 p.m.

FOR THE LADIES

BOWLING, Corinne Davis
Summer leagues now rolling.

GIRL SCOUTS, Dallas Vasquez
Mariners, Intermediates, Brownies. All Norcrafter girls welcome.

TOASTMISTRESS, Marge Gates
Meet in NRC Clubhouse Board Room 1st & 3rd Thursdays, 7 p.m.



Personalized Picnics By Personnel Activities

Picnic packages are being planned and coordinated through the Northrop Recreation Club as part of its 1959 summer fun parcel.

Any picnic-pondering group need only contact Personnel Activities to start the "ball" rolling. From then on, the group can look forward to its day, unconcerned about location, permits, equipment, prizes or games.

With NRC, it's in the bag . . .picnic bag, that is.

REGAL RACER—Norcrafter Bob Reynolds, who notched an unofficial boating record of 55.0 mph for the measured mile (see March 11 Norair News), sprays foamy wake in test runs at the Long Beach Municipal Marine Stadium. Midget-class Royal Flush is co-owned by Bill Stamps.

SALTON SEA ON TAP—Bob, in his standard racing outfit—crash helmet, life preserver, and snipped-off skindiving suit—calls it a day. The blue-and-white Royal Flush is next slated to compete in NRC Boat Club events over the Memorial Day weekend at the Salton Sea. All fleets will rendezvous at Desert Shores resort Friday, May 29. According to Ken Payne, commissioner, plans call for ski races and, depending on number of entries, boat races—with Royal Flush a competitor.

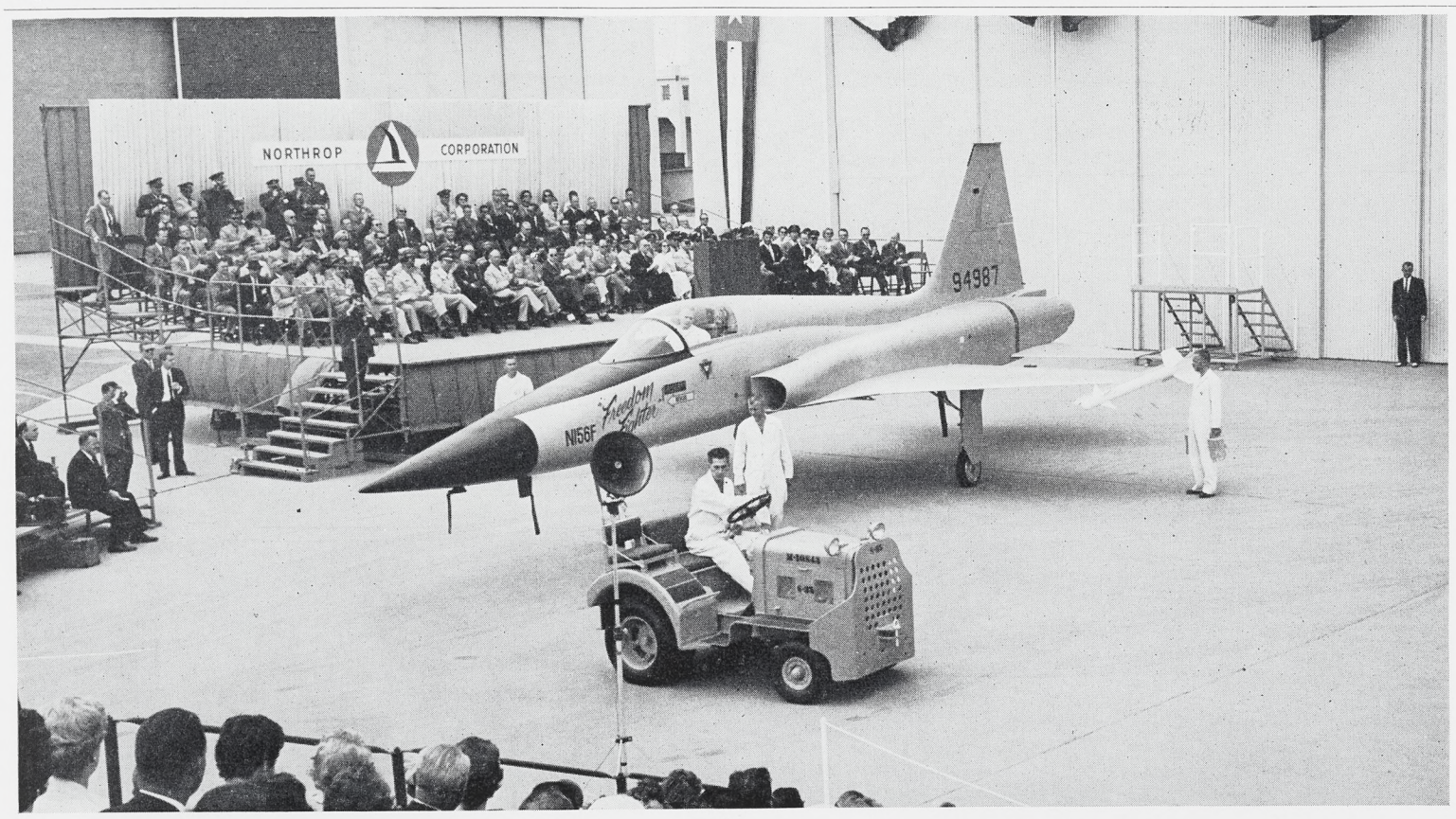
Northrop-Norair News

Issued biweekly by Norair Division of Northrop Corporation

Wednesday, June 3, 1959

PARTNERS IN FREEDOM

Northrop-Norair's N-156F, the Freedom Fighter, rolls out of Advanced Production Hangar for the first time. Air attaches from over 40 Free World nations are distinguished guests for the ceremony.



Fighter For Free Nations

N-156F — The Freedom Fighter rolled from Advance Production Hangar into the bright sunshine as distinguished guests from over 40 free nations watched in awe and silence. Hearty applause broke out after the rollout team made a complete 360 and parked the airplane facing the speaker's stand. The Freedom Fighter is 43 feet 11 inches in over-all length; wing span, 26 feet 5 inches; height is 13 feet. First flight is scheduled for July at Edwards Air Force Base.

Air Force Congratulations

FEATURED SPEAKER — Above, Major General Jarred V. Crabb paid high praise to the Freedom Fighter. "This airplane is the heartfelt work of your Company," he stated. "I compliment each and every one of you . . . It is early development of the finest."

A TOAST—"May this new fighter now roll in quantities to all the free nations of the world!" — Major General Erik Rasmussen, Danish Royal Air Force.

FROM THE NETHERLANDS—Holland's Los Angeles consular official Dr. Adrian Hartog, left, and Air Attache Colonel Peter Janssens exchange pleasantries and talk fighter plane requirements with Norair Vice-president and General Manager Dick Nolan, Northrop Corporation President Thomas V. Jones, and Northrop-International Customer Relations Manager Gwynn Robinson. Photo was taken immediately after rollout as distinguished guests gathered for inspection of Norair's new Freedom Fighter.

N-156F ROLLS OUT!

REPRESENTATIVES FROM OVER FORTY FOREIGN NATIONS WATCH FREEDOM FIGHTER CEREMONY

"May this new fighter now roll in quantities to all the free nations of the world!"

This toast, given by Major General Erik Rasmussen, Royal Danish Air Force, hailed the advent of Norair's newest and sleekest — the Freedom Fighter, N-156F.

It was on Saturday, May 30, that the Freedom Fighter emerged from the great hangar doors of the Advanced Production area.

Distinguished visitors hailed from over 40 NATO, SEATO and other countries. Flags, in proud array, formed a backdrop. Fine military music was furnished by the March Air Force Base 523rd Air Force band, Chief Warrant Officer John M. Baldelli, director.

Norair Vice-president, Customer Relations, John Alison, was master of ceremonies.

First speaker, Norair Vice-president and General Manager Dick Nolan formally welcomed the honored guests and acknowledged the high degree of responsibility in building such an airplane.

"The free world has followed closely the progress of the N-156F," he stated. "We have endeavored to utilize the most advanced technology in the aeronautical and military sciences to produce this weapon. It is Norair's expression of our way of life— to produce oustanding products at the lowest cost possible."

Next speaker, Northrop Corporation President Thomas V. Jones, termed the N-156F "a culmination of long effort in the cause of freedom." He paid tribute to the officials of the free nations represented. "In my travels throughout the world, these men and their governments have welcomed me with cordiality and extended the unqualified friendship of their countries. We feel that the Freedom Fighter is also a freedom partnership. They asked for an airplane that would stay in the field and not in the repair hangars. We studied all the lessons man has learned about aircraft. We took the good ideas and rejected the bad. She is supersonic. We gave her twin engines. Her sistership, the Talon, now in flight program at Edwards, is already proving the integrity of this family of aircraft."

Major General Jarred V. Crabb, chief of the Air Force Air Defense Command, was featured speaker of the day.

General Crabb gave Northrop and Norair high praise for the N-156F. "It is a wonderful airplane," he stated. "I have talked with Lew Nelson, your test pilot. This airplane will do many things Century Series aircraft cannot do.

"It is a simple airplane. I have made note of the good maintenance features of the N-156F and your outstanding, sometimes almost unbelievable advances in this field will keep the Freedom Fighter in the air while other airplanes are on the ground.

"This airplane is the heartfelt work of the Northrop company. It contains your tears and your sweat and your blood. I compliment each and every one of you."

General Crabb illustrated the meaning of his regard in explaining details about such design features as raising the canopy. "The pilot raises the canopy," he said, "instead of a complicated and expensive hydraulic system. Man does it, yet Norair design has counterbalanced it so that it can be done easily and surely."

The General paid further compliment in the area of instrumentation. "Some of your advances are surprising. This is early development of the finest kind," he said.

The airplane, on signal from Mr. Nolan, was towed from the hangar into the sunlight by a white-coveralled Norair team under the direction of General Supervisor Sherm Turner.

Tractor driver was Bill Rhodes, crew chief on the N-156F. In the cockpit of the airplane rode Don Hester, master mechanic. At the nose was Frank Morgansen, master mechanic. At the left wing was Bob Kaminski, field and service mechanic. At the right wing was Chris Soihl, field and service mechanic.

The boys towed the airplane out the east door of the Advanced Production Hangar and made a complete 360 turn, smartly chocked the wheels, unhooked the light, but finely designed, towbar and then rode their tractor out of the staging area.

The Freedom Fighter rested in the sunlight and the crowd was at first silent. Then applause.

Mr. Alison announced, "Will the military people, the foreign attaches, please come down from the stand first for photographs."

The Freedom Fighter had taken her place in this man's world where it is real important to keep your powder dry.

TWA, JAL FIRST FLIGHTERS

The guests, predominantly foreign except for Air Force officials and local city and county officials, consisted of the corps of Washington air attaches, Canadian and Australian government officials, Los Angeles consular officials, Chinese Nationalist Air Force officers, and worldwide representatives of radio, television, and the press.

From Washington, a contingent had flown west Friday for the ceremony on the inaugural flight of TWA's 707 Washington jet.

A Japanese group, including 40 journalists, had flown from Tokyo to San Francisco on the inaugural flight of the Japanese Air Lines trans-Pacific service.

Northrop-Norair News

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CHARLES BARR, Director
CHARLES BRADFORD, Editor

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Past Years in the News

Wednesday, May 24, 1944

Lieutenant Rudy Vallee, U.S. Coast Guard, staged a giant "Buy a Black Widow" bond drive at all plants.

Wednesday, May 18, 1949

The company issued a call for structural assemblers to help build the Flying Wing. Norcrafters were asked to help by referring friends and relatives to the Personnel Department.

* * *

Artificial arms and legs from Northrop's prostheses development were featured at a National Research Council meeting in Toronto, Canada.

* * *

The *Northrop News*, with the help of Safety Engineering and the Los Angeles Police Department, did a double-page spread on good driving entitled "Courtesy Equals Safety" and was instrumental in starting a nation-wide campaign for highway good manners.

NORTHROP–NORAIR

NEWS BRIEFS

SNARK ALERT—The Snark alert test at Northrop Field (see News Briefs, 20 May 1959) has successfully passed 281st hour of the 400-hour program—as of the first of the week. The program, to demonstrate Presque Isle-type battle-ready demands, means that this Snark has been on alert for the past 12 days—Saturdays, Sundays and holidays—24 hours around the clock . . . At the conclusion of the program, the Snark will have demonstrated a constant alert capability of 17 consecutive days and will still be ready for many more days without any particular limit.

PARIS AIR SHOW—All Divisions of Northrop Corporation will participate in the Twenty-third Salon International De L'Aeronautique to be held at Le Bourget Airport, Paris, France, 12-21 June . . . This will be the 50th anniversary of the salon . . . Theme will be "Wings of Destiny" . . . Northrop Corporation will present a group of exhibits in the American Wing, a new building at the show . . . The Company will show products and models of products from all Divisions. There will be full-scale hardware such as the Hawk and Radioplane drones . . . Bob Rolfe, Corporate Customer Relations, is handling coordination. Divisional coordinators are, Norair, Dick Benjamin; Radioplane, Harry Martin; Nortronics, Bob Ringle; Northrop-International, Bernard Alvarez.

T-38 PROGRESS—George Douglas, vice-president, Engineering, reports that first flight of the second T-38 is scheduled for this week—very likely at press time . . . The N-156F, rolled out last Saturday, is scheduled for first flight late in July. This airplane will move to Edwards in mid-July. Stated Mr. Douglas, "The Talon is living up to our predictions. Captain Nelson, T-38 Project pilot, has already flown the airplane three times and will probably get more time in this week. The 25-hour engine periodic inspection has been completed. No serious problems have developed and flight progress has definitely been outstanding . . . Flight job of the second Talon for Norair," Mr. Douglas continued, "will be to conduct air loads survey, stability and control studies, spins and structural integrity demonstrations. This will take approximately 100 hours of the test time. The first airplane is occupied with basic airworthiness, powerplant installation, and performance and equipment testing. One hundred and thirty hours have been allotted. Air Force programs will of course be under way at the same time. Other extensive evaluation programs, including those on the N-156F, will phase in as airplanes are completed." . . . Last issue the *News* forecast 15 to 16 flights by Wednesday, May 20. Sixteen flights were accomplished.

T-38 TOOLING GO-AHEAD — General Manager Nolan has advised that management has approved go-ahead on T-38 production rate tooling buildup. This is in anticipation of contract negotiation this week at Wright Field for T-38 fiscal 1960 buy . . . "Total efforts of Manufacturing's Tool Engineering group, A. S. Turner, chief, are behind this project," stated Mr. Nolan. "It is anticipated that the job will take about nine months." . . Personnel requisitions for certain classifications needed are already being processed. The work got under way last week.

SNARK UNDERRUN—Dan Hill, Norair treasurer, has notified the Air Force that a substantial number of millions of dollars savings are indicated on two production orders for the SM-62. Stated Mr. Hill, "The orders are under Cost Plus Incentive Fee and the underrun makes it possible for the Air Force to reallot these funds to other projects . . . In practice, as each CPIF order is negotiated, Air Force accounting earmarks estimated funds necessary to completion of that order. Underrruns mean that the contractor has been able to effect savings in design and manufacture and a balance, consequently, accrues to the customer on that particular order. When this is achieved, as in the case of these two Snark orders, we advise the Air Force immediately and they are able to use the money for more weapons and materiel, either with Norair or elsewhere. Cost-conscious Norcrafters largely made this fine showing of efficiency possible."

QUARTERLY DIVIDEND — The board of directors of Northrop Corporation has declared a quarterly dividend of 40 cents per share, payable 19 June 1959, to shareholders of record 3 June 1959.

Nolan Talk to Supervision Gives Norair State-of-Affairs Report

"Today's problems build tomorrow's strength."

With this as the keynote, Norair Vice-president and General Manager Dick Nolan addressed all day-shift and night-shift supervision Wednesday of last week.

Mr. Nolan spoke at the main cafeteria and gave a state-of-affairs report on Company business prospects—both present and future.

Mr. Nolan also introduced Corporate President Thomas V. Jones, who in his first time before a large Norair gathering, reported on the over-all status, with particular reference to customer attitudes and product acceptance.

"My first duty on assuming the Corporate presidency," stated Mr. Jones, "was a trip to the Pentagon and Wright Field to assess, in frank discussions, our military product progress with Department of Defense and Air Force leaders. I found that our reputation as a low-cost, on-schedule producer of quality products is growing each day. Cost underruns on various orders (see Snark Underrun, News Briefs, this issue) are certainly in our favor and are bringing very favorable comment. This is especially more evident in recent weeks as many other manufacturers are reporting overruns and increased costs. PACE and the T-38 Supplier Symposium have also brought much favorable comment from military officials—and not mere lip service."

Noting that this is a time of intricate tasks and high demands for those charged with management and supervisory responsibility, Mr. Jones called for straightforward thinking.

"We are in an era of sophistication and extremes," he stated. "Complication is the rule, not the exception. And the answer is simplicity. It takes uncomplex thinking to solve the complex problem."

In praising the Norair Division on performance, Mr. Jones said, "Operating Divisions and Division managers are the heart's blood of the Corporation. We have complete confidence in you and in your management . . . There will be no reshuffling of plans. We know our jobs."

Highlights from Mr. Nolan's report:

The T-38—"Very proud of our trainer . . . We expect to produce large numbers of airplanes . . . I predict it will be 10 years or more in operational service and military inventory . . . A fighter version proposal on the way . . . with armament and fire control . . . a missile and rocket weapon system . . . Now negotiating for increased production on the T-38. Tooling already under way in anticipation of 1960 fiscal buy negotiation."

The Snark—"The missile pioneer . . . An intercontinental guided missile in being . . . We are trying for more orders from the Air Force on the Snark."

Subcontracts — "Outstanding performance on the Boeing and McDonnell work . . . We are after more business on the B-70, the F-108 and a large cargo airplane. We have a breakthrough on honeycomb bonding process and are in a unique position."

Boundary Layer—"Boundary Layer looks very good . . . The future will see ton-mile costs down where airplanes will haul such things as bananas, heavy equipment, and even coal, thus competing with other forms of transportation. Boundary Layer is going to prove this—make it possible."

Space and exotic projects—"Studies under way on probes, capsules, manned maneuverable satellites, other critical projects . . . Proposals on ground support and checkout equipment for many missile projects . . . Much work in this area, the kind of work we like to do and can do."

Competition—"No platitudes to offer . . . Competition is tough . . . Always will be . . . We must continually change in preparation for tomorrow."

Industrial relations — "Long history—20 years—of industrial harmony . . . Never a picket line, never outside control . . . Never the loss of a single hour's pay because of strikes or labor troubles . . . Union organizational campaign now under way . . . Northrop policy has always been and always will be to recognize human rights, preserve human dignity . . . No cog-in-the-wheel treatment . . . In past representation elections, Norcrafters have demonstrated their faith in the Company and its policies."

Wages and Salaries—"Rate ranges for salaried classifications will be increased by four per cent effective June 15 . . . Salary "special" merit fund established . . . Rewards to those who demonstrate outstanding ability . . . Hourly increase now effective."

People — "The Company's greatest asset . . . Norcrafters are the best workmen in the world . . . Jobs have been performed intelligently, congenially, and with the team will-to-succeed."

Salaried Ranges Upped

Mr. Nolan announced that rate ranges of all salaried classifications will be increased four per cent as of June 15.

A "special" merit fund equal to three per cent of the salaried payroll will be established as of the same date.

There will be no blanket increase for salaried personnel. Salary increases will be granted from the merit fund to those Norcrafters who demonstrate increased ability.

Gasich, Petersen Prominent In IAS Meet Space Session

Two Norair scientists are prominently featured in the upcoming National Summer 1959 Meeting of the Institute of the Aeronautical Sciences. From Tuesday, June 16, through Friday, June 19, this annual IAS congress will be staged at Los Angeles' Ambassador Hotel.

On the afternoon of the opening day, the session on Space Propulsion and Space Recovery Techniques will be chairmanned by Welko Gasich, director, Weapon Systems Development Engineering. In preparation, Mr. Gasich has organized the panel and has supervised the framework of technical presentations. In the meeting itself, his functions include conducting of a question-and-answer session and a summation.

A member of Mr. Gasich's panel is Norm Petersen, chief, Astrosystems and Research. Mr. Petersen will topic "Rocket Powered Capsule for Aeromedical Research and Space Crew Indoctrination."

The four-day meet features seven classified sessions, all at secret level. These range in content from Advanced Detection Techniques to Vehicle Development Testing.

The Cocoanut Grove banquet and dance Thursday, June 18, caps the nontechnical facets of the congress. Guest of honor and principal speaker is James H. Douglas, secretary of the Air Force. William Littlewood, IAS president, is toastmaster. Nat "King" Cole and Freddy Martin and his Orchestra headline the evening's entertainment.

PRESSTIME WIRE

Immediately upon completion of Freedom Fighter roll-out ceremonies, Mr. Jones left by air for Europe. Upon arrival in Amsterdam, he cabled the following.

"To R. R. Nolan:

Congratulations to you and your Norair team for a job well done in every respect Saturday. It was a fitting tribute to all the good and hard work that has gone into the N-156. It made me very proud of our Company. Please give my thanks to all concerned."

T. V. Jones

M-C MEN HOLD SPORTS NIGHT; ROZELLE GUEST

This Friday the Management Club holds its annual Sports Night. M-Cers will convene at the Cockatoo Inn, 4334 West Imperial Highway.

The prominent sports figure headlining the evening's program is Pete Rozelle, general manager of the Los Angeles Rams. Mr. Rozelle will present a film on Ollie Matson, the Rams' Indianapolis-type fullback. He will also give a short talk on the business end of big-time football.

Second speaker on the agenda is Jack Wells, Norair T-38 test pilot. After showing a film on the Talon first flight, Mr. Wells will discuss the flight program and future prospects of Norair's supersonic trainer.

Meeting will be called to order by President Elmer Noonan at 6:30. On tap for the evening's entertainment are the Saints, a barber-shop quartet and accordidionist Elsie Gould.

According to Sid Hall, program chairman, this M-C getto-gether is the first one to feature, in addition to door prizes, a raffle. There will be a pair of winners, each receiving a Las Vegas weekend for two that includes air transportation, two nights at the Hacienda Hotel, buffet dinner, champagne, and golf reservations.

BBSF Classified Ads

Items advertised in "For Sale" and "For Sale or Trade" categories are limited to a maximum of $50. Price must be stated.

Ads for agencies, commercial enterprises and private businesses are not accepted.

Deadline is noon Monday, nine days before publication.

FOR SALE

TV SET, Silvertone 21" w/remote control, needs work, $30. HE 2-1387. A

MASSAGER-LOUNGE, $50. Box 1701. A

FENCE, chain-link-type, 36"x11', $6. DA 7-9084. A

TABLE, maple dropleaf-type, 2'x3', opens to 6', w/pads, $40. FR 4-4282. A

SKILSAW, 6¼" blade, w/case, $30. OR 7-1286. A

SEWING MACHINE, Montgomery Ward open-arm-type portable, $25. FR 4-5171 between 10 a.m. and 3:30 p.m. A

PUPS, collie-German shepherd 7-wk-old, $10. DA 6-4327. A

FURNACE, floor-type, 45,000-BTU, 1 yr old, w/thermostat & pipe, $25. FR 5-0419. A

ROLLER SKATES, 2 pr, Chicago shoe-type; man's size 13; woman's size 7½B; $25 ea. EX 9-1349. A

SPEAKER, Jensen coaxial hi-fi 15", w/ bass reflex enclosure, $50. OR 4-6347. A

SECTIONAL, 3-pc areen. $50. DA 3-1479.

JEWELRY, rhinestone, 30; pins; earrings; $20 or sell separately. Box 1704. A

WRISTWATCH, Benrus lady's 17-jewel, pink gold, cost $85, needs new crystal, $20. FR 9-9616. A

CAR PARTS, 1936-56 Plymouth-Dodge 6s; distributor, Mallory dual-point, $10; headers, Fenton dual-exhaust, $5. Box 1705. A

WRISTWATCH, Hamilton man's, $50. GR 3-1716. A

DINETTE SET, chrome & yellow, 4 chairs, $20. FR 5-2929. A

TENT, 2-man-type, zipper front, poles, $7. TO 6-2553. A

TV SET, 21" console, $45. OS 5-9085. A

CHINA, Noritake Rosalee, service for 12, $50. PL 6-1129. A

CAR GAGES, Stewart Warner electric; oil pressure; oil temperature; ammeter, 0-60; $12. PL 9-2143. A

RECORD CHANGER, RCA Victor 45-rpm, crystal pickup, $10. OS 6-6338. A

ENGINE, 1949 Chevrolet, complete, $45. FR 7-1043. A

PUP, beagle 8-wk-old, AKC, champion stock, $35. FR 5-5171. A

RUG, Barker Brothers 12'x15' wool, blue, $50. PL 4-1964. A

BEDROOM SET, maple; bed, twin-size; chest of drawers; dressing table; $50. FR 2-6355. A

SWING SET, swings, 2; glider; slide; $15. DA 4-6203. A

COUCH, 8' custom, w/matching chair, cost $500. $50. OS 5-9391. A

RANGE, O'Keefe & Merritt automatic gas, $25. OS 6-2931. A

TV SET, Packard-Bell 17" console, mahogany, new picture tube, $30. FR 4-8036.

BINOCULARS, 7x50, center focus, $22. FR 4-0124. A

TV SET, 21" console, $50. TO 9-8937. A

SHUTTERS, pr, 18"x56". $5. GR 7-1539.

BROILER / ROTISSERIE. Broil-Chef, cost $69.95, $25. OS 5-0208. A

BABY EQUIPMENT, twin-size; buggy, $10; stroller, $15. GL 4-4866. A

SLIDE RULE, Pickett 803ES 10", dual-base log-log model, $11. PL 7-5510. A

RUGS, 2 matching, wool, 9'x12', 7'x8', $25. OS 5-5453. A

WANTED TO BUY

DRAFTING MACHINE, w/templates. FR 2-4878. B

FENDER SKIRTS, pr, 1956 Ford. Box 1703. B

FOR TRADE

TYPEWRITER, Remington portable, w/ case, trade for sewing machine. PL 6-5165. C

MOTORCYCLE, Harley-Davidson, trade for steel lathe. DA 4-6203. C

JEWELRYMAKING EQUIPMENT, findings, approx. 100; rhinestones, various colors; pearls; trade for silverblu mink or black fox Peter Pan collar. FR 9-9616. C

RING, man's 30-pt diamond, trade for gun, prefer Luger. FR 4-4140. C

FORD, 1940 Deluxe coupe, trade for receiver, prefer HQ129X. DA 9-9287. C

CHILD CARE OFFERED

CHILD CARE, hot meal, 18-mo-old children & older, licensed, near Northrop. OS 5-7088. G

FOR SALE OR TRADE

WORKBENCH, 21⅛"x44⅛". ¼" steel plate top, angle iron frame, steel casters, $20 or trade for .22 rifle or 16- or 20-gage shotgun. Box 1702. M

STROLLER. Foldarola twin-size, w/mattresses, $20 or trade for SCUBA equipment. FR 6-2282. M

Komeback Kids Open Diamond Season with Exhibition Contest

Leadoff game for the 1959 NRC softball season is a nine-inning exhibition tussle between the 1958 Northrop All-stars and . . . the "Oldies But Goodies." The OBGs are long-time Norcrafters who were once softball standouts in Company play. Gradually, weighty matters squeezed them out of uniform. . .

All diamond derringdo in this match will be by slow-pitch rules and using the watermelon-size 16-inch ball. The two adversaries will clash next Monday, June 8, at 7:30 p.m. Combat scene is Inglewood's Darby Park, just west of Crenshaw and between Century and Manchester.

And tosser of the first ball will be John B. Clark, director, Industrial Relations.

OBG roster includes George Babajian, Tom Blair, Harry Clark, Ray Colgan, Frank Colombo, Tom Duddleston, Monty Gmur, Jud Humphrey, Alex Kratofil, Carl Lippon, Mac McLarney, Bert Osterberg, Walt Osterberg, Snuffy Smith and Curly Wiltse. Co-managers are Ray Colgan and Mac McLarney.

The All-stars, pick of last year's teams in all leagues, are masterminded by Walt Graves.

Norcrafters, along with their families and guests, are invited to root for or hoot at the boys who admit, like Benny, to having passed the 39th birthday. Of course, there's no admission and free refreshments will also be served.

Scheduled as the nightcap on this opening-day twin bill is the first game of American League play. There's no balloon-ball in this one, with the Dodgers opposed by 5400. Manager of the Dodgers is Monte Halberg. His peer for 5400 is Bob Crompton.

Stargazers Climb Palomar, Focus on 200-inch Telescope

The NRC Astronomy Club has tabbed this Saturday, June 6, as the date for the annual rendezvous at Palomar Observatory.

To those whose quest is the macrocosm, the Palomar 200-inch reflecting telescope is of never-waning interest. Shielded by an immense silver dome, man's largest eye pierces the continuum of space to dissect the galaxies that were once thought to be only gaseous nebulae. In the 10 years of its operation, utilizing it in conjunction with the 50-inch Schmitt wide-angle telescope, astronomers and physicists have learned much about these incredibly distant universes.

The tour is slated to begin at 2:30 Saturday afternoon. Starry-eyed Norcrafters will meet at the observatory. Maps to Mount Palomar are available at all Personnel Activities offices.

FRANK JENSEN HONORED BY NSID MEMBERSHIP

Frank Jensen, Facilities and Plant Engineering, has been honored with professional membership in the National Society of Interior Designers. Mr. Jensen's facility design activities for Northrop-Norair, both interior and exterior, have more than qualified him for NSID membership, according to Michael Greer, president.

An eight-year Norcrafter, Mr. Jensen holds a teaching credential from the California State Board of Education for art in the adult education field and he conducts private instruction classes for advanced students. A graduate of the Chouinard Art Institute, he has received eight art awards and has exhibited in more than 50 local and national shows.

Recently, Mr. Jensen coordinated with Carroll Sagar and Associates in the decoration of the new Corporate offices in Beverly Hills.

G. F. RABIDEAU ON PODIUM FOR SAE SYMPOSIUM

Dr. G. F. Rabideau, Northrop-Norair Human Engineering, presented a paper on "How to Apply Human Engineering Principles to Maintainability Design of Weapon Systems" at the recent SAE National Aeronautic Meet.

More than two thousand experts in the missile and aircraft fields from all parts of the country converged at New York City's Commodore Hotel for the four-day Society of Automotive Engineers symposium.

Topics discussed ranged from fabrication of ultrahigh-strength materials, turbine fuels and collision prevention to propulsion and auxiliary power for missiles and space vehicles. Dr. Rabideau was a featured speaker in the session devoted to "Human Engineering Applied to Weapons and Aircraft."

Bank of America Execs Hear Mannion and Catlin At Recent UCLA Seminar

Jack Mannion, assistant to the general manager, spoke before 30 Bank of America officers at their "live-in" industrial management seminar at UCLA recently.

Mr. Mannion's topic, "General Management", applied UCLA's executive training concepts in hypothesis to Northrop-Norair's organizational structure.

This is the first seminar of its kind sponsored by the Bank of America for its excutives. The course is designed to give bankers a greater insight into industrial plant organization and management.

Bob Catlin, manager, Quality Control, also spoke before the group on "An Outline of Aspects in Quality Control".

AF Paper Spots Talon In Two-page Layout

A recent issue of *The Air Force Recruiter*, Wright-Patterson Air Force Base, featured a double-page spread on the T-38 Talon.

Staff Sergeant Volney P. Snyder handled the layout and headlined the picture-story "Meet the Talon — ATC's Newest Basic Trainer." Included were a T-38 timetable, the supersonic trainer's specifications, and summaries of the features that contribute to the Talon's being a "sleek little jet trainer," in the words of Sgt. Snyder.

Story was coordinated through Al Smith, Norair Public Relations.

RIDES WANTED

7:00 a.m. — 3:45 p.m.

HAWTHORNE BLVD. & 133rd ST., Hawthorne. Marcia Woodman, OR 2-6385. 2

7:30 a.m. — 4:15 p.m.

CARSON & MILLER, Buena Park. Mary Eckard, ext. 2477. 3

HAWTHORNE BLVD. & TORRANCE BLVD., Torrance. Carole De Capito. FR 3-1908.

BEL AIR & ORANGE, Anaheim. W. A. Day, JA 7-4270. 3

8:00 a.m. — 4:45 p.m.

CRENSHAW & HWY 101, Torrance. J. Reed, DA 6-5558. 5

HAWTHORNE BLVD. & 140th ST., Hawthorne. Louise Winkler, OS 6-0293. 5

KATELLA & MAGNOLIA, Anaheim. E. E. Jechel, TA 8-4562. 5

CRESCENT HEIGHTS & SUNSET, Los Angeles. Al Weissman, OL 6-3933. 5

CERRETOS & KNOTT, Buena Park. Leonard Schroedter, GA 2-8457. 5

CARSON & NORWALK BLVD., Artesia. J. A. McQueen, UN 5-6859. 5

4:15 p.m. — 12:45 a.m.

ESCALONA & ROSECRANS, La Mirada. Rose Hamilton, ext. 1471. 8

ROSECRANS & VALLEY VIEW, La Mirada, Verna Ottensmeier, LA 1-2428. 8

4:45 p.m. — 1:15 a.m.

AVIATION & EL SEGUNDO BLVD., Hawthorne. Barbara Gardner, OS 9-3571. 8

CENTINELA & FLORENCE, Inglewood. Betty Morrow, OR 2-3413. 8

RIDES OFFERED

7:00 a.m. — 3:45 p.m.

MILLER & ORANGETHORPE, Buena Park. H. S. Dick, ext. 1382. 12

7:30 a.m. — 4:15 p.m.

LA BREA & RODEO, Los Angeles. A. M. Dyckoff, AX 4-9182. 13

BEL AIR & ORANGE, Anaheim. W. A. Day, JA 7-4270. 13

8:00 a.m. — 4:45 p.m.

KATELLA & MAGNOLIA, Anaheim. E. E. Jechel, TA 8-4562. 15

CRESCENT HEIGHTS & SUNSET, Los Angeles. Al Weissman, OL 6-3933. 15

CERRETOS & KNOTT, Buena Park. Leonard Schroedter. GA 2-8457. 15

CARSON & NORWALK BLVD., Artesia. J. A. McQueen, UN 5-6859. 15

3:45 p.m. — 12:15 a.m.

LA BREA & OLYMPIC, Los Angeles. C. F. Lough, WE 8-6357. 16

operation nestegg

SEE NEXT NORAIR NEWS FOR DETAILS

TO GAMING CAPITOL — Airborne contingent of the NRC Travel Club's recent Las Vegas Daze boards the Hacienda Hotel's personal DC-4. Commissioner Howard Cornelius and his wife, Beth—both Norcrafters—are the banner bearers. In addition to the 58 who enplaned, two busloads of 64 Greyhounded to the swank and sun of a Southern Nevada weekend.

THE NATIONAL ANTHEM—Foreign guests and Northrop-Norair officials pay tribute to the Star Spangled Banner as rollout ceremonies get under way. The time is 11 a.m. Vice-president, Customer Relations, John Alison is at the podium. The Freedom Fighter emerged from the Advanced Production Hangar at right. Over 40 countries were represented. Before rollout, continental breakfast was served in Product Display Building.

Freedom Fighter Facts

GENERAL DESCRIPTION

High-altitude, supersonic, low-wing, twin-turbojet multipurpose fighter capable of zero-length launch and operation from short fields . . . Pilot seated in pressurized cockpit enclosed by jettisonable canopy with rocket-powered ejection seat enabling zero-altitude escape . . . Fuselage lines characterized by conformance with area rule . . . Air supplied by side-mounted inlet ducts to twin afterburning engines mounted side by side in aft fuselage . . . Wing shaped with moderate sweep and an extremely thin airfoil . . . Conventional ailerons, rudder, and all-movable horizontal tail utilized.

PURPOSE

The Northrop N-156F multipurpose fighter is designed to fulfill the requirements—particularly those of NATO and SEATO area nations—for a quick-reaction defensive weapon capable of dispersion through zero-length launching and operation from short fields with minimum logistic support. Versatility is emphasized in the selection of armament and fire control systems. The counterair mission of the N-156F includes destruction of enemy airpower both in the air and on the ground.

PERFORMANCE

Three prime considerations govern configuration in regard to performance: (1) contemporary supersonic speed; (2) ability to deliver both air-to-air and air-to-ground advanced weapons; and (3) short field capability, unique in present-day supersonic fighters.

RANGE

Range is more than 2000 nautical miles with external tanks. In addition, provisions are available for in-flight refueling.

SPECIFICATIONS

Weight:	
Takeoff	12,190 pounds
Dimensions:	
Over-all Length	43 feet 11 inches
Wing Span	26 feet 5 inches with wing-tip armament
Height	13 feet

POWERPLANTS

The airframe is designed to accommodate two General Electric J-85 afterburning engines. Alternate powerplants, such as the Pratt & Whitney JT-12, now called J-60, and the Rolls Royce RB-145, have been considered in design and will be made available upon request. The J-85, J-60 and RB-145 are new powerplants which offer exceptionally high-thrust-to-weight ratio characteristics.

CONTROLS

Full-power flight control systems are provided. Aileron and rudder "feel" are provided by control force springs; longitudinal "feel" is provided by a control force spring and bob-weight combination. Longitudinal and directional stability augmentors are installed in series with the control systems. The N-156F can be flown and safely landed using one aileron. No trim tabs are used on the airplane. The ailerons are approximately mid-span with the flaps inboard.

FUEL SYSTEM

The N-156F has two independent fuel supply systems, one for each engine. Fuel for the righthand engine is provided by a forward fuselage tank and a dorsal tank located just aft of the canopy; fuel for the lefthand engine is supplied by center and aft fuselage tanks. The engines can take fuel from either system through cross-feed in the event of single-engine operation. All tanks are bladder-type cells. Fuel sequencing or cross-feed is not necessary during normal flight.

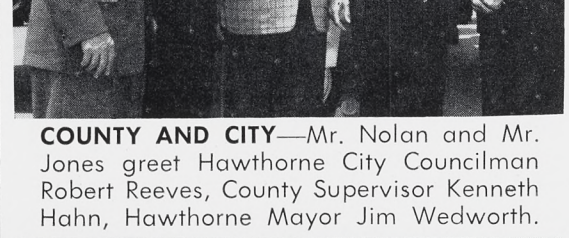
The airplane is equipped with single-point refueling although gravity refueling can also be used. Provisions for air-to-air refueling are accommodated.

COCKPIT

The N-156F cockpit arrangement and canopy design have been "human-engineered" to provide exceptional visibility and an efficient pilot work area. The pilot's forward vision has been made completely free of obstacles, due to incorporation of a single-piece, fixed curved windshield instead of the plate glass or "flat panel" and framework traditional in fighters. The canopy mechanism has been simplified to provide a counterbalanced, easily actuated manual rather than a complex power-operated system for ingress and egress. The cockpit provides adequate space for operation in full-pressure flight suits.

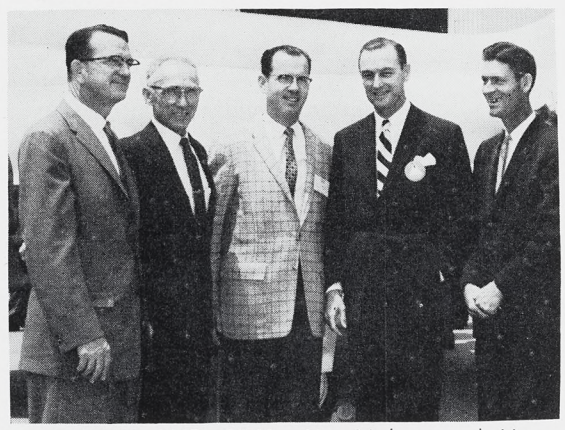
MAINTAINABILITY

Ease of maintenance and low operating cost are prime objectives in the N-156F. All systems and components are designed to eliminate complexity and provide accessibility. Engine accessories are airframe-mounted thus simplifying the job of making engine changes.



FAMILY FLIGHT — Norair Test Pilot Lew Nelson brought Mrs. Nelson and children down to see the airplane that dad will soon be flying. The kids who have the stamp of Nelson, including hairdos and grins, are Jan, 6, and Dale 9. See "pilot."

MR. FREEDOM FIGHTER — Proud man is Ray Gardner, project engineer on the N-156F. Ray, with other Northrop-Norair officials, met and greeted distinguished visitors, explained fighter features—short of classified matters—to all who asked.

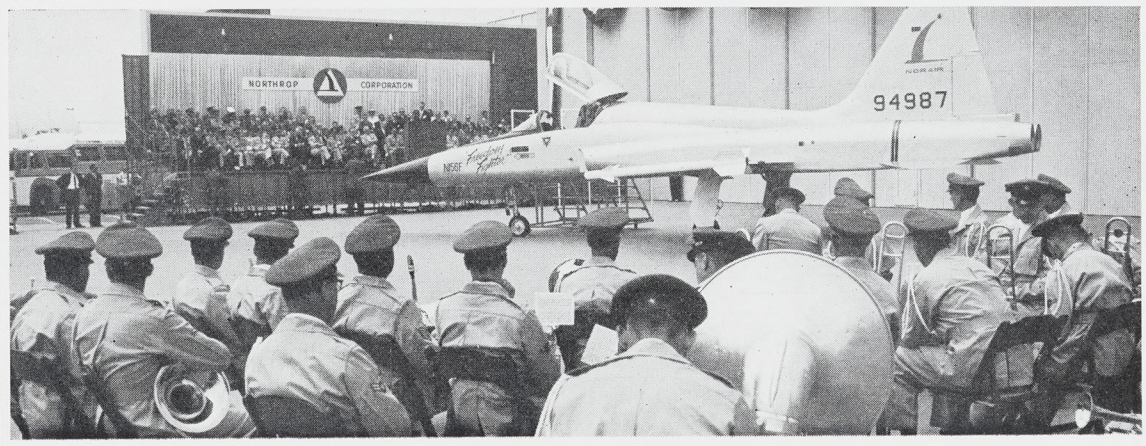


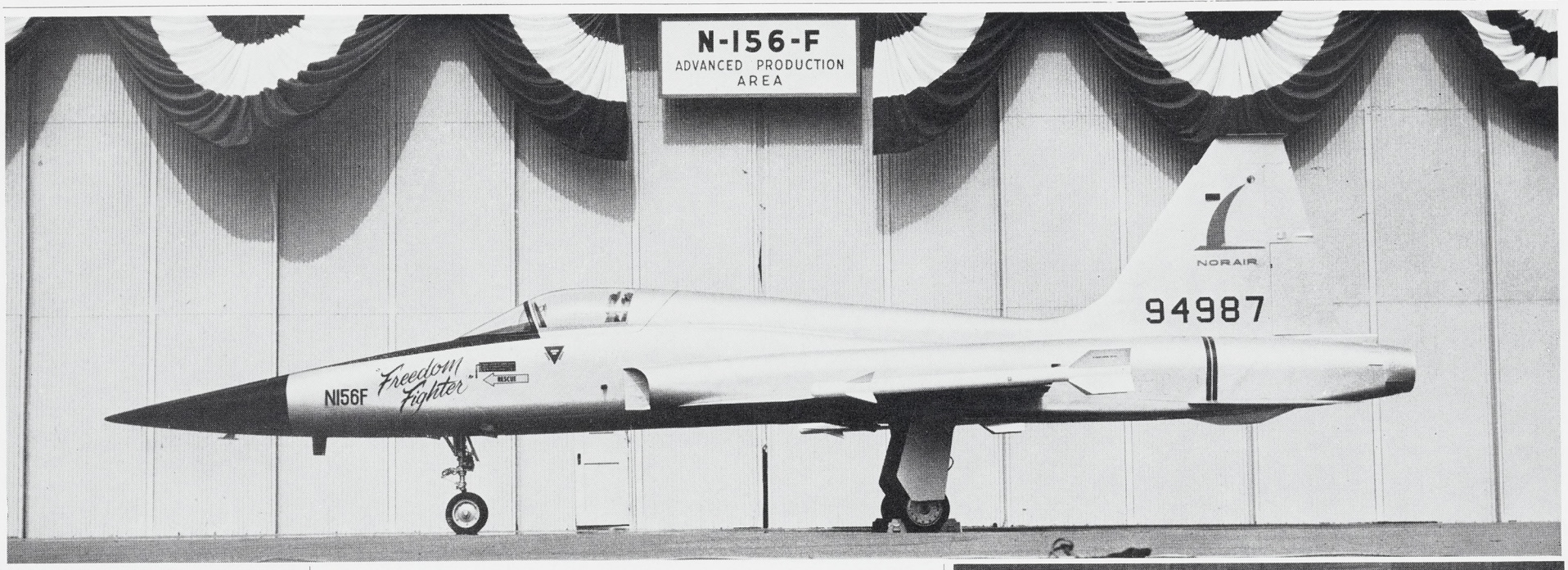
COUNTY AND CITY—Mr. Nolan and Mr. Jones greet Hawthorne City Councilman Robert Reeves, County Supervisor Kenneth Hahn, Hawthorne Mayor Jim Wedworth.

ITALY—Italian Air Attache Colonel Luigi Violante discusses features of the Freedom Fighter with Mr. Jones and Mr. Robinson. Mr. Jones left for Europe after rollout.

FROM THE COMMONWEALTH—Australia's Group Captain K. S. Hennock and New Zealand's Air Commodore T. F. Gill get fighter particulars from Mr. Robinson.

SPAIN — Representing Spain was Air Attache Colonel Miguel Guerrero. Here, while crowd inspects N-156F cockpit, he talks with Mr. Jones and Mr. Robinson.





FREEDOM FIGHTER—The N-156F multipurpose twin-jet fighter designed to deliver bombs and missiles at Mach 2.

AIR ATTACHES — France's Lt. Colonel Jean Bertin, Belgium's Maj. Leon Branders.

CHECKING IN — Brazil's Colonel DeSouza, Britain's Air Commodore Milligan.

SOCIAL HOUR — Korea's Colonel Kim and Canada's Group Captain Chapman.

ARRIVAL—Turkey's Colonel Goksel has ready smile for Norair receptionists Kay Cribbs and Arlene Swift.

Foreign Guest Roster

Air Attaches

Argentina
Colonel E. F. McLoughlin
Australia
Group Captain K. S. Hennock
Austria
Lt. Colonel Paul Klein
Belgium
Major Leon Branders
Bolivia
Brigadier General Walter Arze
Brazil
Colonel L. DeSouza
Canada
Group Captain G. W. Chapman
Chile
Lt. Colonel Rogelio Gonzales
China
Colonel Hsiung-sheng Hwang
Denmark
Major General Erik Rasmussen
Ecuador
Lt. Colonel G. E. Izurieta
France
Lt. Colonel Jean Bertin
Germany
Lt. Colonel Horst Merkwitz
Great Britain
Air Commodore F. N. Milligan
Greece
Colonel Elias Deros
India
Group Captain H. S. Ratnagar
Iran
Brig. General A. Shashaani
Iraq
Major Hassan Mustafa Makib
Italy
Colonel Luigi Violante
Japan
Colonel Masaji Takahasi
Korea
Colonel S. Y. Kim
Mexico
Lt. Colonel J. Figuerra
Netherlands
Colonel Peter Janssens
New Zealand
Air Commodore T. F. Gill
Norway
Colonel O. B. Engvik
Pakistan
Air Commodore Haider Raza
Paraguay
Brigadier General Ruben Ortiz
Peru
Major General
Guillermo Van Oordt
Philippines
Colonel I. D. Lapus
Spain
Colonel Miguel Guerrero
Switzerland
Captain B. E. Biaggi
Thailand
Group Captain
Chalerm Divaveja
Turkey
Colonel Burhan Goksel
Uruguay
Colonel Rivera Arcos
United Arab Republic
Colonel M. M. Baraka
Venezuela
Colonel Alberto Delgado O.
Vietnam
Captain N. D. Kinh
Yugoslavia
Lt. Colonel A. Bracun

Commonwealth Visitors

Norman Chappel, Canada
Douglas Belyea, Canada
Robert Ross, Australia

Chinese Nationalist Air Force Officers

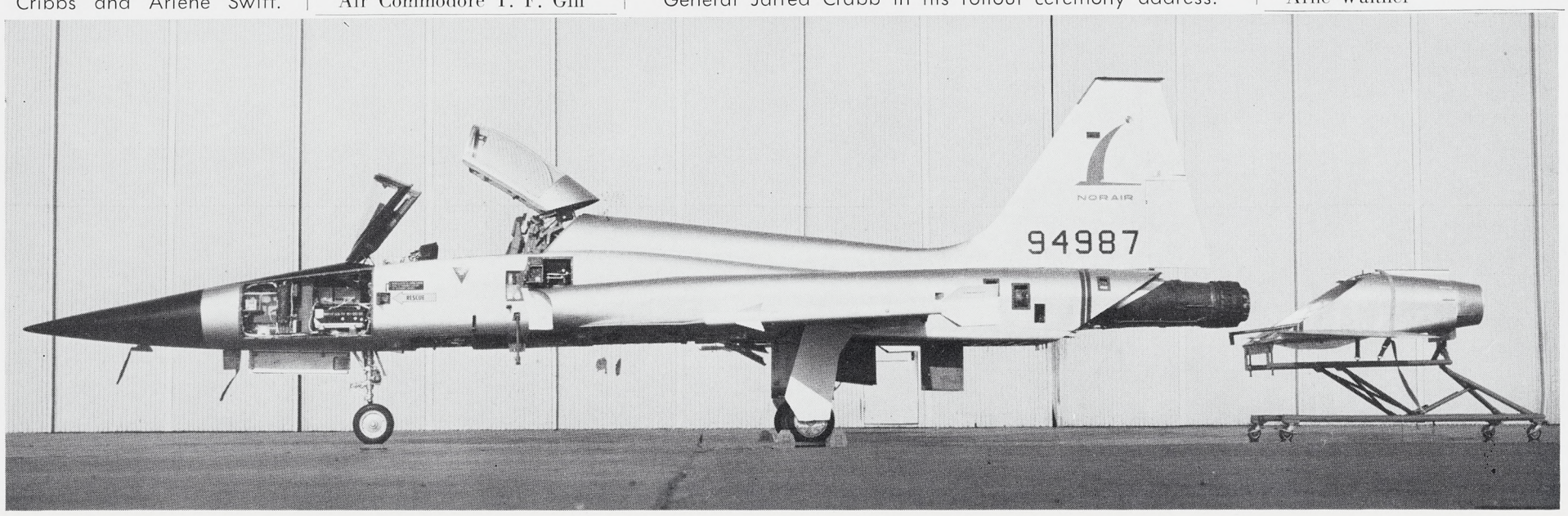
Gen. Ming-tang Lai
Col. Lung-tan Tu
Col. Wei-li Kou
Commander Chih Chieh Huang
Maj. Paul Cheng-xu Mao

CONGRATULATIONS—General Crabb praises N-156F design to Northrop Corporation President Thomas V. Jones, Vice-president and Norair General Manager Dick Nolan.

Consular Officials

Belgium
Georges Barthelemy
Canada
Dr. D. Leo Dolan
France
Jean Ortoli
Germany
Dr. Eduard C. Schneider
Great Britain
Riversdale G. Stone
Israel
Raanan M. Sivan
Italy
Mario Tedeschi
Netherlands
Dr. Adrian Hartog
Philippines
Pedro G. Ramirez
Philippines
F. Lamdagan
Portugal
Joseph Sigal
Switzerland
Edward A. Pernet
Thailand
Henri Jan van Oosten
Denmark
Count Christian Castenskiold
Norway
Arne Walther

EASE OF MAINTENANCE—"Freedom Fighter will stay in the air when many other airplanes are on the ground."—General Jarred Crabb in his rollout ceremony address.



T-38 Talon Supersonic Trainer

Northrop-Norair News

Issued biweekly by Norair Division of Northrop Corporation • Wednesday, June 17, 1959

Test Pilot Lou Nelson Doffs Helmet to Talon Builders

A point of pride for all Norcrafters.

Lew Nelson, Norair's chief engineering test pilot, who has been making aeronautical history with his flights in the T-38 at Edwards Air Force Base, this week made history in another way.

Test pilots traditionally are awarded verbal bouquets for successful flight testing programs, but Nelson turned the tables. In a statement addressed to all Norcrafters who have contributed to the T-38 and N-156F programs, he expressed the profoundest respect and appreciation for the quality and integrity of the T-38. His statement, containing facts never before revealed about the T-38, follows:

"These are busy weeks at Edwards Air Force Base. The T-38 is making history every day as its repeated flights enable us to move ahead with our testing program.

"I wish time permitted me to visit each of you at your work station and congratulate you on what a fine job you have done. Or better still, I wish it were possible for you to fly with me in the T-38 and see for yourself what a truly great airplane we have created.

FRIDAY FLASH

Jack Wells flew the second Talon on first test hop Friday of last week. The flight was for 30 minutes and was successful all the way.

Total number of T-38 flights at press time was 28.

"With data from 28 flight tests and the second Talon in the air, there now is no doubt in my mind Northrop has a truly classic aircraft that will become a flying symbol of the true 'pilot's airplane'.

"These are some of the reasons that make the T-38 a truly great airplane:

"1. Not a single aerodynamic change has been indicated as the result of our flight tests. By now we have explored the basic flight envelope and I am convinced we have no aerodynamic problems.

"2. The airplane is extremely clean. It slices through the air where other airplanes have to be hurled by brute force. This 'cleanness' is a quality easy to feel. The airplane responds more rapidly to thrust changes—like a thoroughbred race horse.

"3. The in-flight performance of the engine is excellent. In the flights to date the engines have been trouble-free. This is a great compliment for new engines. The word we have is that the J-85-5 afterburner-equipped engines will be even better and are living up to these predictions in their factory testing at General Electric.

"4. The airplane has been proved to be flutter-free to supersonic speeds. Stability and control have proved excellent from supersonic through the full stall. These flights have included rolls and abrupt control maneuvers. Maneuvering is accomplished with ease and a sense of security. In maneuvering flight, the pilot need not worry about 'tuck', 'wing-drop', or 'pitchup', such as encountered in other supersonic aircraft.

"5. Also gratifying are the performance of the control, fuel, electrical, hydraulic and air induction systems. They have been trouble-free in flight and have required minimum maintenance. Of great significance is the fact that these systems are almost identical with those in the N-156F. In proving the T-38, we are greatly reducing the test time required for the N-156F. The Freedom Fighter will be ready for our free world allies just that much sooner.

"6. We recently had our first 25-hour inspection of the airplane. Not a single structural fault was found. Not only is the aerodynamic design solid, but the structural integrity is sound. Designers and producers have done excellent jobs.

"7. I am not alone in my opinions. Jack Wells and Henry Choteau of our Engineering Flight Test section also have flown the T-38 and are knowledgeable, experienced test pilots. Their findings confirm my opinions.

"8. The T-38 is the first airplane being tested under the Air Force's new 'category' testing program. This enables the Air Force to greatly accelerate proving out an airplane. Captain Swart Nelson, the T-38 Air Force project pilot at Edwards, flew the T-38 on its fifth flight. I know of no other supersonic airplane taken aloft by the military so early in the testing program.

"Until I have a chance to congratulate each of you individually, my helmet's off to you," Mr. Nelson concluded. "The T-38 is a great airplane, and I'm convinced that the N-156F is going to prove to be even a more exciting member of the same family."

Creamer Assistant to Lloyd, N-156F Program

Michael Creamer has been appointed assistant, N-156F Program, to Bob Lloyd, Norair vice-president, Manufacturing.

Mr. Creamer's assignment will be largely support of the overseas sales program and the programming of Freedom Fighter manufacturing in foreign countries.

Formerly director, Manufacturing Program Planning, Mr. Creamer is well informed on Free World aircraft manufacturing facilities. In his extensive travels for Norair — over 80,000 miles were logged last year and 54,000 in the first five months of this — he has made studies of the impact of aircraft manufacture on the respective national economies.

He is particularly attuned to the Japanese situation, having held the position of technical superintendent for Lockheed at Kawasaki Aircraft in Japan.

He attended UCLA and Harvard Business School. He holds an AMP degree from the latter.

Operation Nestegg

ACADEMIC MASTERS NET JUST REWARDS—Because of their exceptional showing in nationwide competition (see story below), these students from Norcrafter families—three from Norair, one from Nortronics-Hawthorne—were presented four-year scholarships by Northrop Corporation. Awards were made by President Thomas V. Jones. From left: James Wilson, Wilma Webster, Mr. Jones, Ken Kibodeaux, Fred Isaacs. Scholarships start this fall.

Four Scholarships Awarded To Norcrafters' Teenagers

Four Northrop Merit scholarships, totaling more than $16,000, have been awarded by Northrop Corporation to children of Norcrafters. Three of these top students are from Norair families, one from Nortronics.

Northrop's four scholars are Fred Isaacs, Ken Kibodeaux, Wilma Webster and James Wilson. They were presented with official notification of their awards by President Thomas V. Jones in a small gettogether that included Division officials and beaming parents. See picture above.

The scholarships are for four years each and begin with the 1959 fall term. According to Tom Darden, chief, Industrial Training Administration, if the college or university chosen by the student is a private institution, the stipend carries with it a "cost of education" grant.

Fred is the son of Mrs. Bernice Isaacs, Norair secretary, and plans to major in physics at MIT. Ken Kibodeaux plans to major in nuclear physics at UCLA; his father is Gaston, Norair guard.

Wilma is the daughter of William Webster, Nortronics-Hawthorne electronics technician; her university will be UCLA for a mathematics and physical science major and her career choice is teaching. James is the son of W. J. Wilson, Norair instrumentation engineer, and plans to major in physics at Caltech.

This is the first year for partic-

(See SCHOLARS, Page 2)

Champion Appointment Announced by Morgan

Paul H. Champion has been appointed director of Contract Administration, it has been announced by Al Morgan, vice-president, Contracts and Service.

Mr. Champion replaces John A. Stiehl, who has moved to Northrop-International as manager of Administration.

Mr. Champion has been with Norair for seven years in the contract field. He is a graduate of Tulane University, where he received his degree in business administration.

PAYROLL PLAN NONSUBSCRIBERS ASKED TO JOIN

U. S. Savings Bonds are the nestegg in this operation — nestegg for the purchaser, power for peace for the government.

Officially under way today is a concerted Northrop effort to increase the Company's percentage of Payroll Plan subscribers. Department clerks will ask only those who are not now nestegging in this convenient way to join those who are.

But personal financial security is not the only justification for investing in bonds. President Eisenhower, for example, gave several more in a recent talk before the

(See NESTEGG, Page 2)

New NRC Board Gears Activities In All Divisions

Northrop Recreation Club is is now Corporate in scope.

The traditional NRC double-triangle emblem, now emblazoned in blue and gold, has become the symbol for all recreational, cultural and social activities within each of the line Divisions.

All present Norair clubs retain their identities, with commissioners and representatives elected and appointed from within the Division. These commissioners

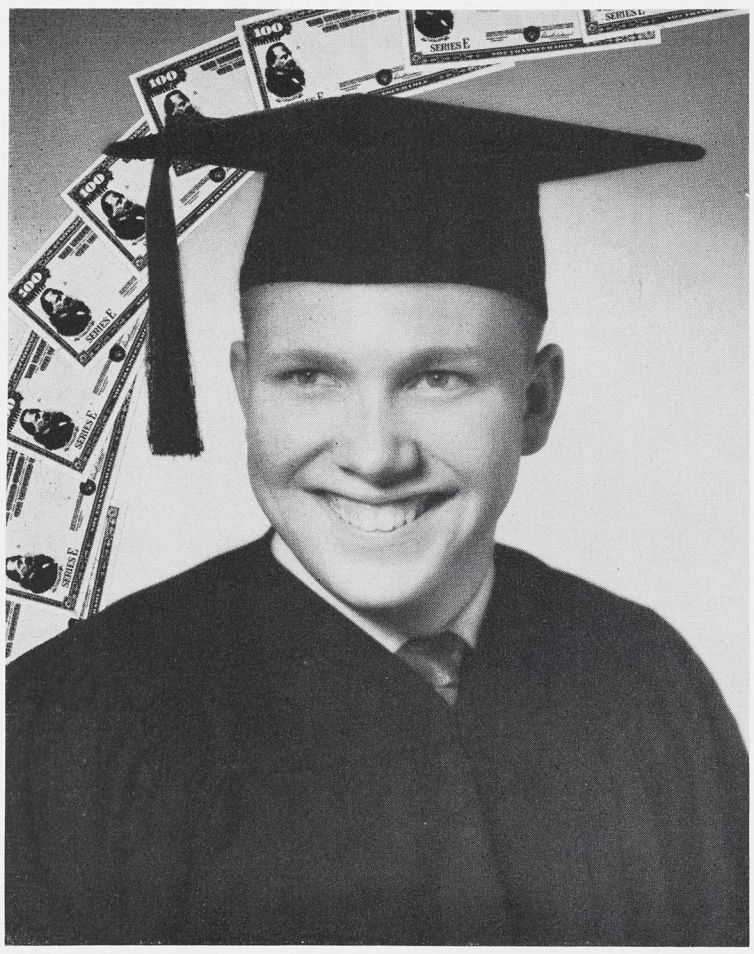
(See NRC, Page 4)

NORTHROP–NORAIR

NEWS BRIEFS

ACADEMY CLASS OF 1959 — Norcrafters attending the first graduating class of the Air Force Academy at Colorado Springs last week were Roger Ramey, Corporate vice-president, District Offices; John Alison, Norair vice-president, Customer Relations; Church Haenke, Norair director, Active Project section; Alvin Smith, Norair Public Relations; Doug Hamilton, manager, Corporate District Offices—Colorado Springs and Omaha; and Paul Fonda, Northrop-International senior Washington representative.

PENTOMIC WEAPONS—In the past five years, Norair has expended considerable engineering effort on design and engineering of various weapons oriented to U.S. Army land combat requirements. This effort has included U.S. Army Ordnance Corps studies for analysis and evaluation of atomic delivery systems on the tactical battlefield. During the past year, a Company-funded program has evolved a technical concept, suitable and adaptable for any one of several "optimum family" missile systems in the Pentomic Army. Applying this concept, Norair has designed a missile weapon system that has been briefed by Company officials to various interested Army agencies. Under way is a continuing effort by Customer Relations and Engineering Departments to inform all Department of Army agencies of the operational capabilities, significant low cost for development and production of the system, and application of the system to meet field Army requirements.



THE SERIES "E" SMILE—This young American, scientist of the near future, wears his mortarboard at a secure angle, thanks to a future secured by systematic purchases of Savings Bonds through Payroll Savings. See your clerk today.

THE PAYROLL SAVINGS PLAN

To: All Personnel

At the personal request of the Secretary of the Treasury, the Honorable Robert M. Anderson, Northrop Corporation has pledged itself to active participation in the Treasury Department's all-out effort to increase the purchase of Savings Bonds by Payroll Savings.

Within the next few days you will be asked to join those of our personnel who are now purchasing United States Savings Bonds by Payroll Savings.

Payroll Savings is not a deduction from your payroll check. The money you save is yours, with interest, when you need it. It is an automatic plan, backed by the full faith and credit of the United States of America.

Your contribution to the future of America also is the guarantee of your own future prosperity and happiness. I strongly urge all of you to take advantage of this opportunity to join the Payroll Savings Plan.

Thomas V. Jones
President

HONOR OF ESTEEM—Northrop Corporation Vice-president, Legal, William Larrabee receives plaque from Personnel Relations Bureau of the Jewish Federation-Council honoring the Company for "employment practices in keeping with the traditional American way of life . . ." Presenting the plaque is Irving Hill, vice-president, Jewish Federation Council, Greater Los Angeles. The award, one of five such honors for Southland aircraft companies, took place at a dinner in the Crystal Room in the Beverly Hills Hotel. Attending were, in addition to Mr. Larrabee, E. J. Baum, manager, Public and Industrial Relations, Nortronics-Anaheim; Al Cline, Corporate director of Public Relations; John B. Clark, Norair director of Industrial Relations; Tom Woods, Nortronics Precision Development; Carl Scott, Radioplane assistant director of Industrial Relations.

Bonds—

(Continued from Page 1)

United States Savings Bond Conference in Washington.

"The readiness of our people to invest their savings into bonds is one of the features that we must count upon," he said, "if we are going to be able to confidently and permanently counter the Soviet threat to our form of life.

"It is the kind of thing that bespeaks morale and faith in America.

". . . the most important factor to be for," the President continued, "is fiscal soundness. This is an essential condition of our economic health. Without it we can have neither adequate military security nor the adequate provision of other needed services."

When one adds these weighty reasons to the more personal one of building a nestegg . . . for education, a new home, or just a rainy-day fund, it is easy to see why Savings Bonds are an American's Best Buy.

Scholars—

(Continued from Page 1)

ipation by Northrop Corporation in the National Merit Scholarship Program. According to President Jones, Northrop has joined the many other leading corporations who subscribe to this program, in order to reward outstanding students from Norcrafter families and to broaden the base and lend diversity to the Company's already extensive program of Aid to Higher Education.

The four awardees qualified as finalists in this year's National Merit Scholarship competition. There were approximately 10,000 students selected from an initial group of nearly one-half million high school seniors across the nation. These 10,000 finalists have emerged with top ranking after one of the most intensive academic screenings in the country and number less than 0.6 of one per cent of the nation's total high school graduating class.

It was noted by Edward C. Smith, executive vice-president of the nonprofit National Merit Scholarship Corporation, that it is extremely unusual for a company the size of Northrop to be represented in this select group by as many as four students.

Further information on this program may be obtained by calling Tom Darden, extension 2436.

SPACE AUTHORITY

Norman V. Petersen, chief, Astronautics, who was interviewed for the article on the facing page, is considered an authority in the field of astronautical systems.

In a paper delivered at the National Summer 1959 Meeting of the Institute of the Aeronautical Sciences, Mr. Petersen declared that the outer edge of the earth's atmosphere could be the training ground for man's first landing on the moon. He described methods for simulating lunar landings 50 miles above the earth.

Mr. Petersen is a founding member, fellow and director-at-large of the American Astronautical Society and editor of that association's publication, *Astronautical Sciences Review*.

Page, Italian Firm Form Communications Combine

Northrop Corporation and Societa Edison of Milan, major Italian electric power company, have completed formation of a new Italian communications engineering company known as Edison-Page, S.p.A., it was announced.

This announcement followed a meeting in Rome of Thomas V. Jones, Northrop president, and George Valerio, managing director of Societa Edison, in which they finalized negotiations and mapped the operational program for the new joint venture company. Also participating in the discussions were Esterly C. Page, president of Page Communications Engineers, wholly-owned Northrop subsidiary, and Dr. William C. Ballhaus, Corporate vice-president and general manager, Nortronics Division.

Northrop, through its wholly-owned subsidiary, Page Communications Engineers, Inc., acquired 49 per cent of the stock of Edison-Page with Societa Edison owning 51 per cent. The new firm will begin operations immediately on the engineering and development of Page communications networks and related electronic activities for Europe and Africa.

"This is a highly significant extension of our overseas activities," Mr. Jones stated. "It gives Northrop a strong electronic tie-up in Europe. By joining with one of Europe's largest and most reputable companies, we have considerably strengthened our ability to compete in world markets."

Societa Edison, with net worth of $350,000,000, engages in construction and operation of power generating plants, the manufacture of electronic devices and systems and telephone equipment, and numerous other enterprises.

COMPUTERIZED MONEYMAKER—Advance in the check-writing field is new time-slashing, cost-cutting Univac Hi-speed Printer now being used by Norair Data Processing. Surveying compact, newly designed checks after a trial run are George Forbes, paymaster; Al Nichols, chief, Data Processing; Frank Barnard, controller; Dwight Smith, supervisor, Computer Programming and Operations. See story below for details on Univac and new-style checks.

Univac Now Makes Up Norcrafter Checks in One Hour as Against 32

Just 50 years ago, most companies employed bookkeepers and clerks for computing and writing out payroll checks. Then came the era of typewritten drafts. Early checkwriting machines further reduced payroll time.

And now Norair Data Processing has the Univac Hi-speed Printer.

A 14,000-check bidivisional payroll that includes Nortronics-Hawthorne is handled each week by Data Processing. Vacation checks raise the total even more. According to Al Nichols, chief, this took 32 hours of machine time under the previous setup. Univac does it in one hour flat.

A fast, accurate typist might be able to issue 60 checks in an hour . . . Univac clicks out 240 each *minute*.

In commenting on the acquisition of Univac, Dan H. Hill, Norair treasurer, stated, "Integration of Univac into our Data Processing Center follows the Norair pattern of up-to-date equipment to effect accurate, efficient recordkeeping. Univac represents the most advanced step in mechanized processing of business data, which includes computing and checkwriting."

Introduced simultaneously with Univac's debut was a newly designed check — convenient because of its more compact size and clarified statement.

The new check is over two and one-half inches shorter and abut one-half inch narrower than the old-style check. When detached from the statement, the check is only slightly larger than a dollar bill and can be placed in a wallet without folding.

The statement itself has been simplified to incorporate individual boxes for the various deductions.

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High Road to the Moon and Mars

NORAIR MANEUVERABLE MANNED SATELLITE STUDY TERMED THIRD STEP IN CONQUEST OF SPACE

Below are remarks from a *Norair News* interview with Norman V. Petersen, chief, Norair Astronautics.

Mr. Petersen, would you trace the factors that motivate man in his conquest of space?

There are two principal motivations: pioneering compulsion and economics.

These are the twin drives that have always shaped the major advances of mankind. They are shaping our approach to space. But man must reason his actions with good solid justifications.

Our space justifications are four in number.

1. Psychological. The scientific world is the first to admit that conquering space is much like climbing Mt. Everest. It is something that has to be done. Man will never be happy until it is done.

2. Commercial. This is a very valid motivation. We know that with space in our pocket we will be able to develop systems that will aid immeasurably in communications, navigation and weather control through close-orbit satellite systems. These are immediate gains that we are sure of. We also feel that the moon and the planets will provide mankind with undreamed-of advantages and resources. However, we must be alert and not pursue only the obvious. Remember that Columbus searched for the land of spices and was disappointed when he found America.

3. Military. This is a distinct area. It involves employment of offensive and defensive operations as well as communications and surveillance systems. Military concerns are immediate and are to be accomplished, for the most part, with earth satellites and satellite life support systems and the means to orbit man to and from these systems. This is an area that Norair is presently studying.

4. Answers to scientific questions. We must have means to determine the answers to the "why" of our own environment. Effect of solar radiation. Cosmic radiation. Relation of all extraterrestial inputs to our own atmosphere. Celestial observations. This new space knowledge will help us to solve many riddles and mysteries. Is our solar system of sun and planets unique or does this same pattern follow throughout the universe? Much medical information will be gained as we determine the performance of man in closed ecological systems necessary for manned space missions.

Improved observational techniques using satellite-based observatories operating throughout the electromagnetic spectrum will increase our knowledge in astrophysics.

Mr. Petersen, will conquest of space provide a new frontier? Does science feel a responsibility here?

Not in the population sense. The population rate of the earth is increasing faster than it would be possible to transport people to a planet, even if that planet were habitable.

What are the steps we must take to conquer space?

Sputnik I pulled the trigger on man's all-out space effort. Sputnik I proved to the world that man could put an object into the solar system, so to speak.

The next objective, and the immediate one, is to put man into space. This will be done within perhaps two years by the NASA's Project Mercury. Manned orbital capability will be demonstrated by this project. We will orbit a man and he will return to earth to physically report his response to launch acceleration, zero gravity, and terminal deceleration.

Following this most important milestone toward operational space systems, the next milestone will be to orbit a more complex life support system and to effect rendezvous with it by a maneuverable manned satellite vehicle.

Norair's Astrosystems and Research group is making detailed studies of the satellite rendezvous problem. Our system concept will orbit a maneuverable manned satellite that will rendezvous in space and effect coupling with a life support system on a permanent orbit.

Upon effecting rendezvous and coupling with the life support system, or SATEL, in orbit, the pilot would transfer from the maneuverable ascent vehicle to the SATEL vehicle. After an arbitrary stay-time within the SATEL or upon completion of a specific mission, the pilot would board the maneuverable vehicle and enclosed capsule for subsequent de-orbiting and recovery on the earth's surface. De-orbiting will be accomplished by using retrorockets to initiate re-entry into the earth's atmosphere. Missions to the life support satellite could be in any number since it is assumed to have been placed originally on a permanent orbit.

Development of a satellite rendezvous capability will permit assembly of more complex space stations. Eventual progress in this direction will permit assembly in space of manned lunar and planetary probes for close-orbit reconnaissance of these bodies and the necessary vehicles for direct landings on their surfaces.

Would you outline the principal problems of placing a man in orbit in this manner?

There are four main problem areas.

1. The human mechanics of withstanding the high acceleration thrust during launch into orbit.

2. Zero gravity in orbit.

3. High acceleration on re-entry by ballistic or winged configuration.

4. Recovery of the man by parachute following ballistic recovery or recovery by winged landings at specified air bases.

Human tolerances to high thrust are under study now. Various study programs have been made in the U. S. using rocket test sleds and human centrifuges. At Norair there is a project under way which tests this tolerance in a fluid environment.

Studies to date do not indicate any severe problems associated with enduring zero-gravity condition while in orbit. However, it appears desirable to provide a reasonable acceleration level for extended stay-times. The answer to zero gravity is generally agreed to be handled by applying artificial gravity simply by spinning the satellite. While undergoing transient flight maneuvers such as iso-orbital or inter-orbital transfers to other satellite stations, it appears more practical to accept zero-G condition.

Would you describe the techniques of joining the maneuverable capsule with the life support satellite? Isn't this a ticklish business?

Not particularly.

In the first place, our present methods of landing aircraft at air terminals will be modified and applied.

We will have TSCA (target satellite controlled approach) as opposed to GCA.

Or we will have an MSLS system (maneuverable satellite landing system) in place of ILS.

The former, TSCA, will place the responsibility burden of the landing system on the target satellite, whereas the latter, MSLS, will place the primary burden on the maneuverable satellite.

In the case of MSLS, it is assumed that a search-and-track radar utilizing a beacon on board the target satellite would provide the necessary flight data to the pilot to assure rendezvous in the close vicinity of the target satellite.

It is assumed that the pilot will perform the terminal phase guidance and coupling to the target satellite by visual observation.

Could you describe a space rendezvous of this type?

First there are three maneuverability regimes to consider—launch maneuverability, assembly maneuverability, and orbit maneuverability.

Launch maneuverability is the capability of controlling the launch maneuver in order to arrive at a preselected point in space at burnout.

Assembly maneuverability is the capability of providing close-in maneuvering for coupling with a target satellite.

Orbit transfer maneuverability is the capability to effect sizeable orbit plane rotations as well as both iso-orbital transfer (on the same orbit) and inter-orbital transfer (between two orbits at different altitudes).

Would you comment on the specific and immediate objectives in the development of rendezvous space systems?

Initially, the objectives are scientific but there would be farreaching commercial benefits and military advantages.

Militarily, a rendezvous capability would

1. Provide a maintenance, repair and modification service function for space vehicles and systems.

2. Provide continual development of complex satellite bases.

3. Establish a space platform for defensive or offensive operational functions.

Commercially, such a rendezvous capability would

1. Provide a maintenance and operational service function for communications and navigational satellites and weather monitors.

2. Permit development of laboratories for industrial research utilizing the unique characteristics of a space environment—namely, the zero gravity and hard vacuum conditions.

Scientifically, the capability would

1. Provide complex platforms for space research (manned laboratories, etc.).

2. Provide a platform from which space exploration missions can be launched, with the eventual utilization of the solar system for the benefit of mankind.

We have talked a great deal about satellite systems. What about the moon? What about exploration?

NASA has already let several major contracts for development of large boosters capable of placing very sizeable payloads into close orbit about the earth.

For example, it has been announced by the NASA that the Atlas-Vega will place 5000 pounds into orbit, and the Atlas-Centaur, 10,000 pounds into orbit. These are due approximately in 1961.

The Saturn vehicle will boost upwards of 60,000 pounds into orbit by 1962.

The big gun—the Nova, which will place 150,000 pounds in orbit or place 20,000 pounds on the moon—is to follow these. The Nova could be operational by 1965.

Some authorities think that we will find it cheaper to support our satellite systems from the moon than from the earth, due to the low gravity of that body. Also, we expect to find substantial mineral and scientific wealth on the moon. However, to gain full advantage of what the moon offers, it would be desirable to designate a fraction of all lunar payloads for use in utilizing the natural resources of the moon.

Processing techniques for deriving oxygen and water from the moon's resources should be studied to ease the burden of supplying a lunar base.

SPACE—Norman V. Petersen, chief, Norair Astronautics, and Joan Ell, secretary, illustrate concept of solar distances as he holds earth and moon and she holds Mars. Earth-moon-Mars distance ratio is one to 162. Joan should be 420 feet farther. Norair is working on maneuverable manned satellite as mankind's third step into space and the high lonely road to the moon and Mars. Sputnik I was first step. Project Mercury will be second.

Work is being done here on earth with algae using photosynthetic processes that would supply both food and atmosphere for our lunar workers.

Another oxygen source might be the rocks—oxides or silicates.

Man has much to gain by a successful lunar voyage.

Science has made great progress. Has the average man—the man in the street—kept up?

The man in the street is catching up, let's put it that way. Television, radio, newspapers are educating both young and old. Our schools are definitely preparing the young. Perhaps the youngsters are more aware than the elders. But, generally, mankind is supporting scientific advancement with exceptional will and vigor.

Will manned space exploration take place in our time?

Yes. It appears imminent in the next few years.

CORPORATE NRC—Newly elected officers and members of the Corporate NRC Board sit for a family portrait at their first meeting — standing: Hal Chanslor, Norair; Ash Dunning, Nortronics-Hawthorne vice-president; Gene Bogess, Norair, NRC immediate past president; Charley Boyle, Corporate NRC Administrator; Jack Snedaker, Nortronics-Hawthorne; Chuck Thomas, Radioplane; Harry Clark, Norair; seated: Ron Wiggins, treasurer, Norair representative-at-large; Alice Yount, secretary, Radioplane representative-at-large; Boyd Corwin, president, Norair vice-president; Henry Fritzel, vice-president, Radioplane vice-president; and Bert Sims, sergeant-at-arms, Nortronics-Anaheim representative-at-large. (See story, Page 1.)

RIDES WANTED

7:30 a.m. — 4:15 p.m.

BROADWAY & ORANGE, Long Beach. Ben West, HE 7-4950. 3

8:00 a.m. — 4:45 p.m.

EL SEGUNDO BLVD. & NORMANDIE, Gardena. Ruth Fusi, ext. 2664. 5

SANTA MONICA BLVD. & WESTERN, Hollywood. Harold Greer, HO 4-6094. 5

BALL & MILLER, Buena Park. Leonard Schroedter, ext. 1678. 5

INGLEWOOD AVE. & 118th ST., Hawthorne. Murelene Biggs, OS 5-1624. 5

SANTA MONICA BLVD. & WESTERN, Hollywood. Harold Greer, HO 4-6094.

4:45 p.m. — 1:15 a.m.

AVIATION & MANHATTAN BEACH BLVD., Manhattan Beach. L. N. Bryant, ext. 1333. 8

RIDES OFFERED

7:30 a.m. — 4:15 p.m.

BROADWAY & ORANGE, Long Beach. Ben West, HE 7-4950. 13

8:00 a.m. — 4:45 p.m.

SANTA MONICA BLVD. & WESTERN, Hollywood. Harold Greer, HO 4-6094. 15

CRENSHAW & SEPULVEDA, Torrance. J. P. Januleski, FA 8-6892. 15

LINCOLN & MANCHESTER, Playa del Rey. I. Sherlock, EX 8-4032. 15

BALL & MILLER, Buena Park. Leonard Schroedter, ext. 1678. 15

SANTA MONICA BLVD. & WESTERN, Hollywood. Harold Greer, HO 4-6094.

Grandmaster Kashdan To Tilt with 40

Forty with one blow! Like the fellow in the fairy tale who only swatted seven, International Grandmaster and *L.A. Times* Chess Editor Isaac Kashdan is gunning for 40 chess victories at once.

This is Mr. Kashdan's second acceptance of a mass challenge by the NRC Chess Club. Last year, he was pitted against 38 boards and, in traversing that mile-long treadmill, his box score was 35-2-1. He's out to erase that single defeat in this year's super duel—the NRC Clubhouse battle lines are drawn for Saturday, June 27, at 7:30 p.m.

Another gambit-game celebrity is slated to appear that evening. Harry Borochow, representing the U. S. Chess Federation, will award trophies to winners of the recent intraplant tourneys.

Accepting these trophies for their nimble-witted stratagems will be Bill Lurie, Plant One; A. R. Pena, Plant Two, first shift; K. M. Decker, Plant Two, second shift; Bill Burton, Plant Two, third shift; Jim Card, jr., Plant Three; and R. A. Lalane, Engineering Center.

Spectators are welcome to mentally kibitz duelists' maneuvers. Refreshments provided by the NRC will sustain both battle-scarred players and second-guessers.

Boards are still available and reservation forms may be secured at Personnel Activities and Services, Plant One.

NRC—

(Continued from Page 1)

form the Norair Divisional council, which administers all clubs and activities.

Three of each Division council's officers sit on the NRC Board, for a total of nine members in addition to the Corporate Administrator, Charley Boyle, chief, Norair Personnel Activities.

At its first meeting, the policy-making NRC Board elected two Norair men to office: Boyd Corwin, president; and Ron Wiggins, treasurer. Other officers of the board are Henry Fritzel, Radioplane, vice-president; Alice Yount, Radioplane, secretary; and Bert Sims, Nortronics-Anaheim, sergeant-at-arms. See photo above.

Divisional council officers for Norair are Boyd Corwin, vice-president; Ron Wiggins, representative-at-large; John Felder, treasurer; Dorothy Lewis, secretary; and Tom White, sergeant-at-arms.

join

operation nestegg

Norair Industrial Relations has named Harry Clark to continue as its representative on both the NRC Board and the Divisional council.

The bylaws of the Corporate NRC provide that outlying facilities, such as Florida, will be represented on their Divisional council by a recreation chairman. He, in turn, will be assisted by a recreation committee. When the personnel of an outlying facility exceeds 1000, the area becomes eligible to create its own Divisional council.

Under the Corporate setup, the NRC Board will have responsibility for budget allocations and expenditure authorizations. Each Division will be allocated funds for its recreational and social activities based on its total number of Norcrafters.

The consolidation is designed to provide equitable support of recreational activities at each Division. The NRC Board has over-all policymaking and budgetary powers, but each council holds its own authority to administer the policies of its own clubs.

First item on the unified NRC agenda is the second annual Funstival, tentatively scheduled for August 9. Details will be given in later issues of the *News* about this and other activities slated for Companywide participation.

NRC Good Time Table for July

For enrollment or information on activities listed below, call or contact Personnel Activities, Plant One, extension 2784. All clubs meet at the NRC Clubhouse unless otherwise noted.

ARCHERY, Wes Williams
Meet Wednesdays, 7:30 p.m.—movies 1st Wednesdays. Archery classes now in session. Election July 15.

ART CLUB, Forrest Ayrest
Meet in Annex Thursdays, 7 p.m. Models furnished by NRC. Election July 16.

ASTRONOMY
Meet 2nd & 4th Mondays, 7:30 p.m. Sixth lecture in series June 22.

BIBLE STUDY, Warren LaSalle
Plant I—Daily, 11:30-12:15, Tool Design Bldg.; 11-11:45, 5566 Conf. Room.
Plant II—Mondays & Thursdays, 12-12:45, Conf. Room 2.
Eng. Center—Daily, 12-12:45, Reliability Conf. Room.

BOAT CLUB, Ken Payne
Meet 1st Wednesdays, 7:30 p.m.

BOWLING (days), Dave Carney

BOWLING (nights), Jim Scalla
Summer leagues now rolling.

BOY SCOUTS, Sid Cohan
Sea Scouts, intermediates, Cub Scouts. All Norcrafter boys welcome.

CAMERA CLUB (days), Fred Armstrong
Meet 1st, 3rd & last Wednesdays, 7:30 p.m. Election July 15.

CAMERA CLUB (nights), John Newman
Meet 1st & 3rd Saturdays, 8 p.m. Election July 18.

CAMPING CLUB, Fred Brant
Meet 1st Mondays, 7:30 p.m.

CHESS CLUB, Bill Henderson
Exhibition by Isaac Kashdan June 27.

FISHING, Art Kraft
Chartered boats July 18 & August 15.

GEM & MINERAL CLUB (days), Ray Cole
Meet 2nd Wednesdays, 8 p.m. Mineralogy classes Thursdays, 7-9 p.m. Election July 8.

GEM & MINERAL CLUB (nights)
Meet 1st Wednesdays, 1:30 p.m. Election July 1.

GOLF, Bill Putnam
NRC Open Los Serranos July 26 & August 2.

GUN CLUB, Robert Raines
Meet 3rd Wednesdays, 7:30 p.m.

KNITTING, Nina Shannon
Meet Thursdays, 7:30 p.m. — instructions each meeting.

MIXED CHORUS, Verne White
Meet Tuesdays, 7:30 p.m.

MODEL RAILROAD, Jack Wilson
Meet in Annex Thursdays, 7-10 p.m. Visitors welcome. Need electricians, carpenters & scenic artists to help with new layout. Election July 16.

ORGAN CLUB, Gail Skinner

PHILATELIC CLUB, Eugene Richardson
Meet 2nd & 4th Mondays, 7 p.m. Election July 13.

RADIO CLUB
Meet last Thursdays, 7:30 p.m. Radio code class meets Wednesdays, 7:30 p.m. NRC's station is W6VPZ.

RIDING CLUB, Tex Stately

SKEET CLUB, Walt Graves
Meet alternate Saturdays, July 11 & 25, at Rancho Angellis Range, Main & Broadway, 10 a.m.

SKINDIVING, Ralph Gonzales
Meet 3rd Mondays, 7:30 p.m. Election July 20.

SOFTBALL (days), Monte Halberg
League play Mondays & Wednesdays, Rosecrans Park, 7:30 p.m.; Thursdays, Lennox Park, 5:45 p.m.

SOFTBALL (nights), Bob Moncrief
League play Wednesdays, Rosecrans Park, 10:30 a.m.

SPORTS CAR CLUB, Jack Kirkpatrick
Meet 2nd Thursdays, 7:30 p.m. Election July 9.

SQUARE DANCING, George Sanborn
Beginners' class at Henry Clay Jr. Hi Fridays, 8-11 p.m. Election July 17.

SURF FISHING, John Pawlicki
Meet 1st Tuesdays, 7:30 p.m. Election July 7.

TENNIS, Raul Arredondo
Meet 1st Mondays, 7:30 p.m. Practice & instruction at El Camino Jr. College Saturdays, 10 a.m. Election July 6.

TOASTMASTERS 212 (days), John Walker
Meet at Cockatoo Inn Thursdays, 6:30 p.m.

TOASTMASTERS, 2583 days), Walt Brown
Meet at Paul's Club Alondra Mondays, 6:15 p.m.

TRAVEL CLUB, Howard Cornelius
Meet 4th Mondays, 7:30 p.m. Hawaiian trip October 18-25.

FOR THE LADIES

BOWLING, Corinne Davis
Summer leagues now rolling.

GIRL SCOUTS, Dallas Vasquez
Mariners, Intermediates, Brownies. All Norcrafter girls welcome.

SOFTBALL, Becky Traverse
League play Tuesdays, Harvard Playground.

TOASTMISTRESS, Marge Gates
Meet in NRC Clubhouse Board Room 1st & 3rd Thursdays, 7 p.m.

BBSF Classified Ads

Items advertised in "For Sale" and "For Sale or Trade" categories are limited to a maximum of $50. Price must be stated.

Ads for agencies, commercial enterprises and private businesses are not accepted.

Deadline is noon Monday, nine days before publication.

FOR SALE

MOTOR BIKE, 20", 4-hp, $35. DA 6-3282. A

GOLF CLUBS, Alex Gilchrist man's set, w/bag, $45. GR 6-1581. A

RECORD PLAYER, Artone 4-speed automatic portable, $25. FR 4-5852. A

REFRIGERATOR, Servel 10-cu-ft, $35. DA 6-1572. A

CHILDREN'S FURNITURE, Babyline; crib, w/mattress, $15; bed, junior-type, w/mattress. $25. OS 6-8986.

LAZY SUSAN, walnut base, 5 lt & dk green ceramic sections, $2. Box 1804. A

BROWNIE UNIFORM, size 8, w/beanie, $5. FR 9-9616. A

SAMPLE BAG, Avon products, w/lipsticks & powder samples, cost $10, $4. Box 1805. A

MOVIE PROJECTOR, 8-mm, w/400-ft reels, $35. FR 6-9914. A

DESK, child's rolltop-type, oak, $15. EA 2-3613. A

HOUSEHOLD FURNISHINGS, kitchen table, wrought iron, w/4 chairs, $25; stove, Wedgewood, $20. OS 5-3602. A

TV SET, Hoffman 21" table model, needs picture tube, $30. Box 1801. A

HOUSEHOLD FURNISHINGS, dining table, dropleaf-type, ash, w/4 upholstered chairs, $25; refrigerator, 7.2-cu-ft, $25. FR 8-1026. A

HOUSEHOLD FURNISHINGS, coffee table, blonde, non-mar top, $25; drum table, blonde, $10; lamp, black & white w/white silk shade, $15. CR 6-9306. A

HOUSEHOLD FURNISHINGS, tables, mahogany, 2 step-type, dropleaf coffee-type, $12.50 each; andirons, brass, $4.50. OR 4-2623. A

TRAILER HITCHES, 2, bolt-on-type for 1953 Chevrolet, clamp-on-type, $7. FA 8-1944. A

MASSAGE CHAIR, folding-type, 2-speed, cost $178, $50. Box 1802. A

ROCKER, upholstered platform-type, $25. DA 4-8678. A

PISTOL, Ruger .22, $50. FA 8-7478. A

GOLF CLUBS, 1950 Spaulding Top Flite Tournament stainless-steel irons, 2 thru 9, $25. PL 5-7310. A

STOVE, Kelvinator electric, $35. PL 4-5062. A

BICYCLE, boy's 28" English racer-type, $20. HA 9-5445. A

STENOTYPE, w/case, $25. FR 4-8036. A

WAGON, steel, cost $12.95, $7.50. AX 4-0727. A

AIR RIFLE, J. C. Higgins, CO_2, $20. OS 6-6390. A

CAMERA, Argus C3, w/flash, lens filters & Soligor 133-mm telephoto lens, $50. TO 6-7532. A

VACUUM CLEANER, GE tank-type, $10. FR 7-2546. A

CORNER TABLE, unpainted Hollywood-bed-type, 39"x39", $15. EA 2-1491. A

LIVING ROOM SET, 2-pc, modern, convertible sofa, red & grey frieze, $25. DA 3-5740. A

BICYCLE, girl's 26" English-type, hand brakes, gears, $20. FR 9-7775. A

REFRIGERATOR, Westinghouse 7-cu-ft, $40. TO 2-3758. A

ANTENNA, 2-element, 10-meter band, rotator, $15. OS 6-8842. A

RUBBER BOAT, 3-man-type, w/equipment, $25. EA 2-4508. A

PICTURE, 3'x4', coach scene, $10. FR 8-1894. A

WANTED TO BUY

BICYCLE, girl's 26". FR 9-9616. B

FREEZER. OR 1-8475. B

CAMPING EQUIPMENT, tent, mattress for station wagon, stove, Coleman lamp, luggage carrier. OS 6-4723. B

SHOP EQUIPMENT, table saw; motor, ½-hp. PL 2-9597. B

CAR ACCESSORIES, 1952 Ford, radio, heater. GR 8-2722. B

FOR TRADE

VIOLIN, ¾-size, w/bow & case, trade for banjo or racer-type bicycle. TO 6-7532. C

DISHWASHER, Mobile Maid automatic portable, cost $190, trade for hi-fi/stereo equipment. Box 1806. C

FREE (to be given away)

KITTENS. FR 6-1367. D

RENTALS WANTED

TRAILER, 3 weeks in August. FR 2-3827.

LOST

GLASSES, prescription safety-type, split bifocals, dark frames. FA 1-3366. J

PERSONALS

RIDER WANTED, St. Louis, July 1, lady to share expenses w/same. OR 4-6042.

T-38 Talon Supersonic Trainer

Northrop-Norair News

Issued biweekly by Norair Division of Northrop Corporation • Wednesday, July 1, 1959

Allies High on Freedom Fighter

Northrop Officials Push Global N-156F Campaign

The truly global character of Northrop Corporation's expanding sales and product programs was demonstrated dramatically in June.

Highlighting the company's international activities was its participation in the Paris Air Show where heavy emphasis was placed on the superiority of the N-156F as a Norair-designed fighter for U. S. Free World allies, and on Nortronics and Radioplane products.

Just as dramatic were the visits of President Thomas V. Jones to Norway, Denmark, the Netherlands, Belgium and Italy, where he discussed advantages of the N-156F with military and government officials. Also active on the N-156F program were Vice-president Patrick Timberlake, and International Vice-president Geoffrey Parsons and G. H. Robinson, manager, Customer Relations, Northrop International.

In addition, President Jones, Vice-president Ballhaus and Esterly C. Page, president of the company's wholly-owned subsidiary, Page Communications Engineers, finalized formation in Italy of a new European subsidiary, Edison-Page.

Elsewhere around the world other Northrop officers were busy.

Senior Vice-president Robert R. Miller returned from a conference-studded trip in Australia and left immediately for Canada to confer with officials there.

Vice-president J. G. Nettleton of Northrop International and Corporate Vice-president Irving Roth both were busy in Japan regarding the N-156F. Vice-president Nettleton also travelled to Formosa, where he was received by high officials of the Chinese Nationalist government.

And at month's end, President Jones had returned from Europe, briefed officers and directors on latest events abroad, and had been joined by Vice-president Nettleton in a trip to Canada.

There was more than a hint that things were popping for Northrop all over the world.

NORTHROP-NORAIR HOST AS INDUSTRY EXECS SEE PACE

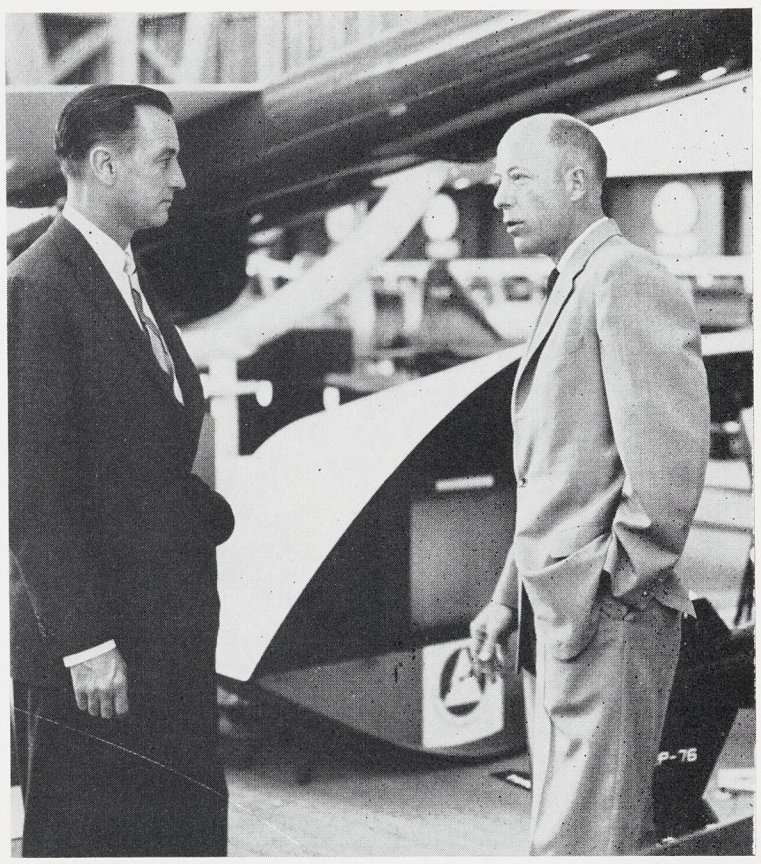
Norair recently completed a series of six PACE presentations to industry.

At the last meeting held in mid-June, the Company was host to more than 40 military representatives and industry executives from all parts of the United States for the two-day seminar.

The formal PACE presentations began in May and were a success from the very start. Each two weeks, for six weeks, Norair welcomed a capacity group for a two-day talk on the subject.

With the conclusion of the meetings and a recap of response, Dave Petersen and his staff came up with a gratifying report. Over 250 industry and government representatives had attended. Over 125 companies from all over the United States sent executives.

PACE, Norair's way to help achieve low-cost, high-quality on-schedule production of defense weapons, had been studied with high interest by a large cross-section of military producers.



"BEST IN SHOW" — Northrop Corporation President Thomas V. Jones, left, had high praise for the Company's exhibit at the Paris Air Show. "The best was general reaction," he said. Here he confers with J. R. Jacobsen, Radioplane assistant vice-president, Customer Relations.

J-85 Passes 1000 Hours Of Test Runs, GE Reports

The General Electric Company has announced that testing of its production version J-85 engine has passed the 1000-hour milestone—equivalent to flying around the world nearly 30 times. Of this total, approximately 700 hours are on the J-85-5 afterburner configuration programmed for use in Northrop's twin-jet T-38 Talon and N-156F Freedom Fighter.

Development and testing of the J-85-5 engines are proceeding at an accelerated pace, according to Gerhard Neumann, general manager of the Small Aircraft Engine Department, with headquarters at Lynn, Massachusetts.

An unaugmented version, the J-85-1, is currently being used in T-38 test aircraft now flying at Edwards Air Force Base. Flight performance of the J-85-1 in the T-38 has produced rated thrust exceeding preflight predicted thrust calculations, according to Mr. Neumann.

General Electric is presently installing a J-85-5 engine on an F-102 test-bed aircraft at Edwards and expects to test this engine under flight conditions in the next few days.

TOP SOVIET DESIGNER ADMIRES N-156F—Andrei N. Tupolev, Russia's top aircraft designer and creator of the Soviet TU-104 and TU-114 jet airliners, stops to chat at Northrop's Paris Air Show Exhibit and admire N-156F. He is shown here with John Mersch, Customer Relations representative for Northrop International, center, and A. V. Cline, Corporate director of Public Relations. A moment later, the Soviet designer took movies of the Northrop representatives and quipped, "Now you'll be on Russian TV."

NORCRAFTERS BEREAVED AT LOSS OF VAN SALTER

Northrop personnel were grieved last week to learn of the death of Marvin (Whitey) Van Salter, a former Northrop test pilot, who was killed when the F-104 fighter plane he was flying crashed at Edwards Air Force Base.

Whitey was employed at Northrop as an F-89 Scorpion production test pilot in June 1954. He left to join General Electric in October 1958.

He won many military decorations as the result of his service as a fighter pilot in World War II and the Korean conflict. At Northrop he won a reputation as an exceptionally talented test pilot.

N-156F STIRS ENTHUSIASM ABROAD—JONES

Allied governments are showing greater-than-ever interest in the Norair-developed N-156F Freedom Fighter, Northrop Corporation President Thomas V. Jones reports.

Mr. Jones returned last week from an extended European trip during which he headed the Northrop contingent at the Paris Air Show and conferred with high-level government officials in the Netherlands, Belgium, Norway, Denmark and Italy. He left again Monday night for a flying visit to Canada, and was due back shortly after *Norair News* press time.

Officials he briefed on the N-156F and other Northrop products included three prime ministers and several ministers of economics, defense and finance.

"Without exception, allied officials were impressed with the figures showing how the N-156F can enlarge their defense programs," Mr. Jones said.

"We face tough competition, but everywhere I went I found a growing awareness of the performance, cost savings and high rate of combat availability inherent in the N-156F weapon system.

"Everywhere officials were eager for information on test flights, performance and manufacturing progress of Norair's T-38 Talon. Many asked to be kept informed on a week-to-week basis. America's defense partners know that the Talon's success is demonstrating the effectiveness of the N-156 low-cost, high-performance concept.

"The Northrop team learned a great deal about the kind of competition we face in the fighter program. We found that our approach—sticking to facts and avoiding sensational claims—has won great respect for Northrop and the N-156F among leaders of NATO nations and other allied governments.

"I was very proud of our exhibit in the Paris Air Show. Even our competitors agreed that it was the best in the show," he said.

In addition to the enthusiasm created for Norair manned aircraft systems, the show resulted in sales orders for Nortronics and Radioplane products, Mr. Jones revealed.

He pointed out that N-156F sales effort is also continuing all-out in Canada, Australia and the Far East.

"The picture continues to improve," Mr. Jones said. "In Japan, a tentative decision in favor of the F-11-1F as that nation's principal fighter weapon system has been cancelled, and the Japanese are starting from scratch. A new evaluation team is on its way to the U.S. With the N-156F soon to prove its effectiveness in flight, time is on our side."

Norair's Trio of Scholarship Winners Take Level Look at Life and the Future

In the last issue of the Norair News, *it was announced that Northrop Corporation had awarded four scholarships, totaling more than $16,000, to teenagers whose parents are Norcrafters. Three of the scholarships went to Norair families: Fred Isaacs, mother, Bernice, secretary; Ken Kibodeaux, father, Gaston, guard; James Wilson, father, Woody, instrumentation engineer.*

These boys are all exceptional students. But they weren't just collecting As and Bs with monotonous regularity. On the basis of one of the stiffest competitions in the nation, their actual useful knowledge and powers of reasoning rate among teenage America's best.

But is this a trio of eggheads, to be evaluated apart from their classmates? Or are these 17-year-olds truly representative of the Class of 1959 in their thoughts and outlooks, their tastes and ambitions? After interviewing the three Norair boys, we think they're somewhere in between—partly "one of the guys" with youth's cloud-nine cockiness and yet scientists-in-the-raw with keen minds searching for a challenge.

For this, their parents are proud. And so are we.

by MARGO WOOD

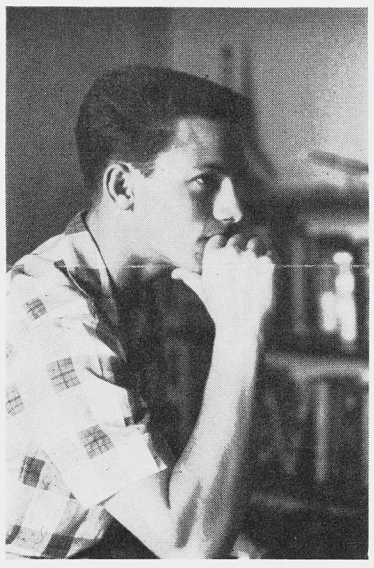
KEN KIBODEAUX: father, Gaston, Norair guard.

First off, how do you feel about the scholarship?

I keep feeling they've made a mistake . . . Of course, my parents are real proud. You know, my father's worked at Northrop for nearly 16 years.

Why do you feel it's a mistake? How were your grades at Hawthorne High?

Oh, I mean it's a surprise really. But I guess I did OK in



KEN KIBODEAUX

school. I had an A-minus average . . . one B for every four As. I graduated 10th out of 335. Now, my sophomore year, that was an important period of adjustment. I didn't do too well then.

I've liked just about all of my courses, but I really didn't study hard. I guess I haven't worked up to my capacity. I know that will change next year.

Why did you pick nuclear physics as a career and UCLA as your university?

Actually, it sort of scared me to have to specialize. But I think that a major in nuclear physics opens the door to just about any branch of science—rocket propulsion, medicine and so on. Nuclear technology is a wide-open field.

I decided in favor of UCLA because they have such a good setup for research in this area.

There are 27 model airplanes around this room. Is building airplanes your hobby?

Well, it was last year. I always go overboard in something. When I was really building them, I had something like 60 airplanes in this room.

Right now I like listening to hi-fi . . . but I haven't been able to afford many records lately. The only kind of music I don't enjoy is popular western. I used to like rock-and-roll, but now that I'm older I don't care for it much.

Most of all, I like to read. The last three years it's been science fiction. I must have nearly 300 paperbacks in that closet over there. I guess my favorite author is Van Vogt.

Television? I haven't watched much lately. It's just a waste of time . . . there are really such few good programs.

How about sports?

Well, I like to watch just about anything—football, baseball, basketball. As far as doing is concerned, I want to study fencing. It's the nearest thing to dancing I know of and I'd like to be able to dance better.

Do you have a parttime job?

I do yardwork and gardening. I like it some days, but most of the time I don't care for it at all. But at least it's healthy! I guess I'll keep on with it for the summer.

What's your long-range program?

I expect to go right on through at UCLA and get my masters. I'd sure like to get that PhD, but I don't think I'll be able to right off.

After I get my degrees and I'm working — probably in industry —I don't think money will be a problem. I want to have just enough money to be able to do what I want to do while I'm still young enough to do it.

JAMES WILSON: father, Woody, Norair instrumentation engineer.

What was your reaction when you heard about the scholarship from Northrop?

Well, I came home from school and there was my mother hopping up and down. She'd just gotten the letter from the National Merit Scholarship people telling us that Northrop was awarding me a scholarship.

Me? Well, it sure makes the difference between scrounging and not. I had even thought about going on the bank's $50-a-month plan . . . but, boy, that'd tie me up for life.

Had you already decided to go to Caltech?

Yes. I'm actually indebted to one of my teachers, Mr. Venturini, for getting me to take the entrance exam and so on. Admittance to Caltech is on the basis of the exam and interviews. But they actually talked more with our teachers than with us.

How have you done in the last four years?

Activitywise, I finally woke up in my last year at North High. I was Boys' League secretary and treasurer of the senior class. There are too many people around who just sit and do nothing. I think the most important things you ever learn in high school are to get along with people and to grow up a little.

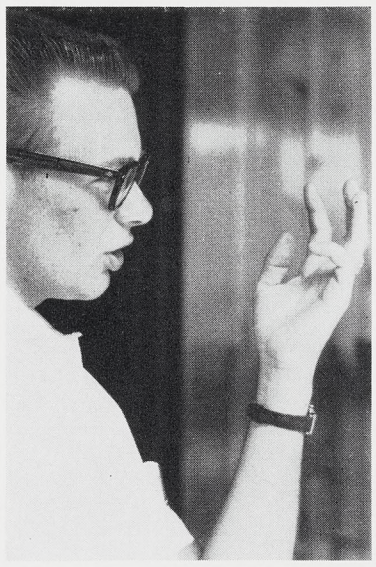
Gradewise, I started out my first year with four As and a B . . . I felt like a clod because everyone else got five As. In the second year, I still got four As and a B, but by this time everyone else was getting four As and a B, too. By the junior year, people are getting more Bs than As and I was still collecting four As and a B. And in the last year, everyone else was getting all Bs. I hope I can always start out around the middle and stay there. I can't see starting off at the top and working my way down.

As far as the individual courses are concerned I particularly like physics and math. In fact, I find math quite easy. I used to hate English, but now I enjoy it because of a real fine teacher.

I took one special advanced course offered at El Camino Junior College—premed physics.

How about your out-of-school activities?

Well, I built an 80,000-volt Tesla coil which was 14 inches high and gave off a 5-inch spark. Larger Tesla coils are quite expensive to build — around $60 or $70—and I just can't afford this. As it was, I



JAMES WILSON

built up my coil by scrounging up glass plates and aluminum foil from school or else I couldn't even have afforded this one. But I gave it to the school, so I'm sure they thought it was worth it.

What's the Answer?

Do you have a question? In the next issue, the *Norair News* will inaugurate a new feature, a question-and-answer column called "What's the Answer?"

It is recognized that in a company the size of Norair, a question often goes unanswered, either because it is not expressed or because it is directed to someone who does not know the answer.

In this "clearing house," the *Norair News* will welcome questions on any subject of common interest and will get the correct answer from the people who know. All questions will be answered, either through the column in the *News* or by memo or telephone call to the requester when the inquiry lacks sufficient common interest for all Norcrafters.

Queries are to be directed to the editor, *Norair News*, organization 1320, zone 65. Inquiries may be signed or not, as you wish.

My hobbies are reading and listening to music. When I try to combine them, I usually end up by doing just one or the other. Either I read a page 20 times or else I forget the radio's on. I lisen to KPOL mostly . . . quiet, restful music. I like Dixieland too, but definitely not rock-and-roll or progressive jazz.

Now, take my sister. She's 16 and the Elvis Presley type. I mean to say that we really have climactic-type battles about that. I think she could get much better grades in school if it weren't for her liking Presley and all that stuff.

As far as television is concerned, I haven't watched it in a year. Just no good. I've even given up Alfred Hitchcock. Even though I'm not usually impressed with Hollywood-type movies, I enjoyed *Auntie Mame* and *Gigi*

Have you been doing any parttime work?

Yes, I've been working as a boxboy at the local Thriftimart for about 20 months. I'll probably continue working there until it's time to go to Caltech this September.

What are your plans for Caltech and beyond?

I picked a physics major because it provides a good background for just about anything else. Also, Caltech's program makes it possible for you to get a masters in five years. I may stop there, although I'd like to work on and get my PhD sometime.

I'm not certain now where I'll go with the degrees. However, I'll probably head for industry because of the money and the benefit plans. You just can't turn it down.

FRED ISAACS: mother, Bernice, Norair secretary.

Has the Northrop scholarship changed your plans at all?

Let's put it this way. I had wanted to go to MIT and, probably, even though it would have been a pretty big strain, I would have been able to. With the scholarship . . . well, it sure takes the strain out of it. Now all I have to do is study hard.

How did you do in high school?

I went to Chadwick—that's a private coeducational high—on a work scholarship. You know, janitorial and that kind of thing.

In schoolwork I made As and Bs. I spent a lot of time studying, but I probably should have spent more.

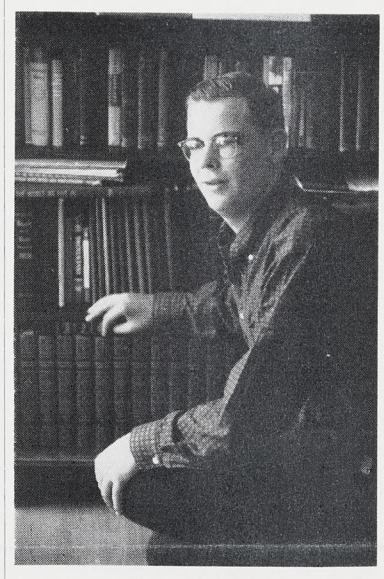
When did you first decide to be a physicist?

Actually, I had wanted all along to be a chemist. That was until last year when I took chemistry. Now don't get me wrong—I liked the class. But I decided then and there that I didn't want to make my life's work of it.

The more I learned about physics, the better I liked it. That's about it.

What was your favorite class in high school?

Math Gamma. That was a



FRED ISAACS

special class — just introduced. It's a combination of trigonometry, calculus and analytical geometry. I made a B-plus in it and really worked hard.

What are your interests outside school?

I dabble in a lot of things. Mostly I read theory and butt my brains out trying to understand it.

I watch TV although I'm not what you would consider an avid watcher. I like classical music, but I don't actually dislike modern music. I'm just rather lukewarm towards it.

Right now I have sort of a project going. I'm grinding a lens for a telescope.

How does the future look to you?

First off, I'm looking forward to going east to MIT. The farthest east I've ever been is Yellowstone.

Then, as I said before, there's lots of hard studying ahead. I intend to plow right on through and get my doctorate.

I want to do research work. I don't think I'll teach . . . I'm more interested in theoretical physics and thinking.

Northrop-Norair News

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CHARLES BARR, Director

CHARLES BRADFORD, Editor

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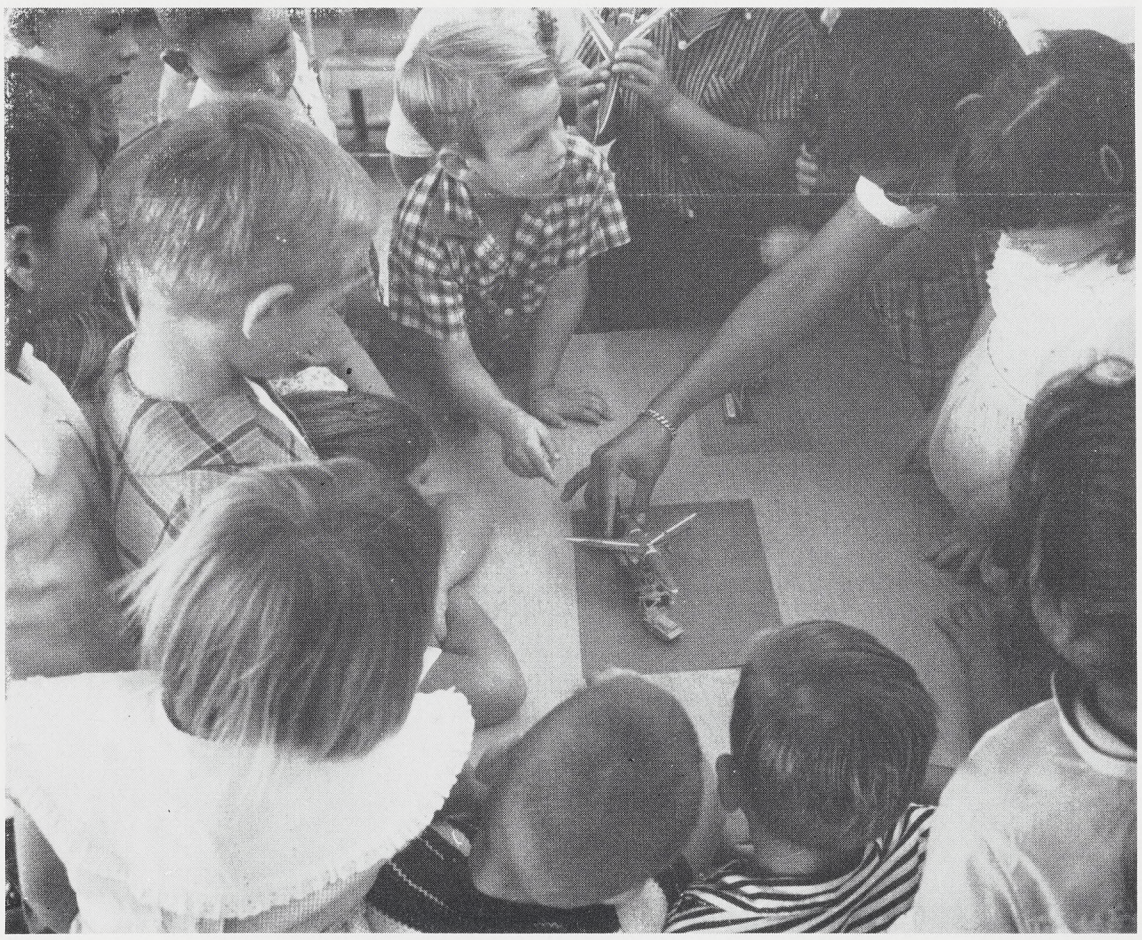
Turnabout Fair Play for Norair NSA Execs

SEATS SWITCHED—Intent at their stenographic tasks (writing congratulatory letters), these three bosses are understandably proud of their gal Fridays' fine showing in recent election of the National Secretaries Association, Airborne Chapter. For the first time, a Norair gal is prexy. From left: Milt Kuska, director, Flight Test Engineering; Paul Wierk, chief, Engineering Administration; Joan Olson, Mr. Kuska's secretary and NSA recording secretary; Don Lewis, Nortronics treasurer; Pat Carlberg, Mr. Wierk's secretary and NSA president; and Edna Parker, Mr. Lewis' secretary and NSA treasurer.

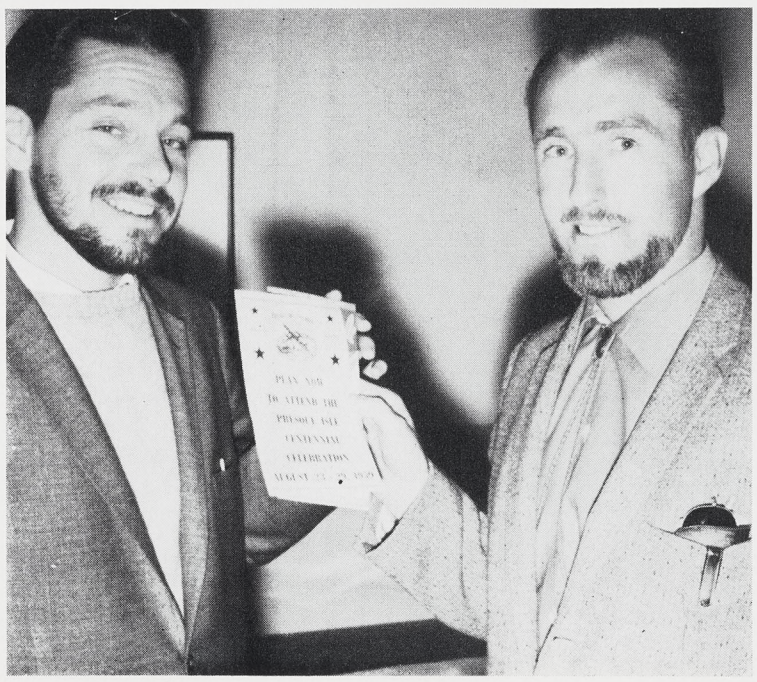
MEMORABLE MEETING—At one of the most successful gettogethers in Management Club history, Norair Test Pilot Jack Wells, right, discussed current aspects of the T-38 flight program at Edwards AFB. M-C President Elmer Noonan, left, appears to be enjoying the talk. Mr. Wells also showed Talon first-flight films. Evening was further highlighted with talk by Pete Rozelle, general manager of the Los Angeles Rams pro football squad.

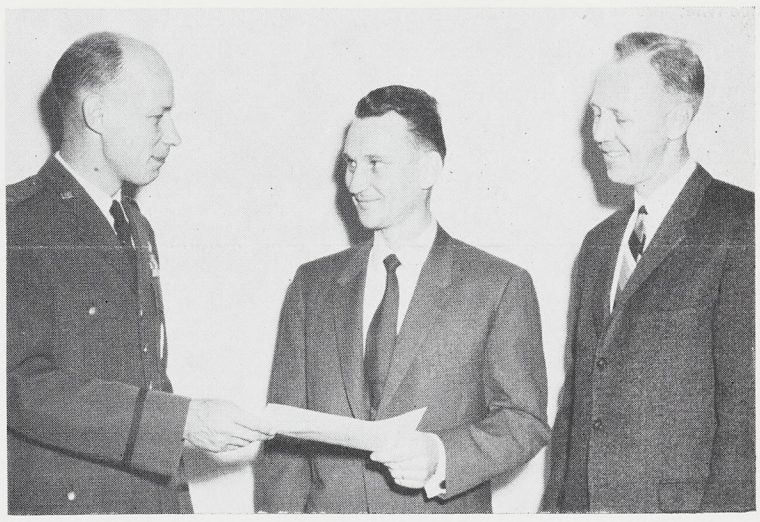
News Pictorial



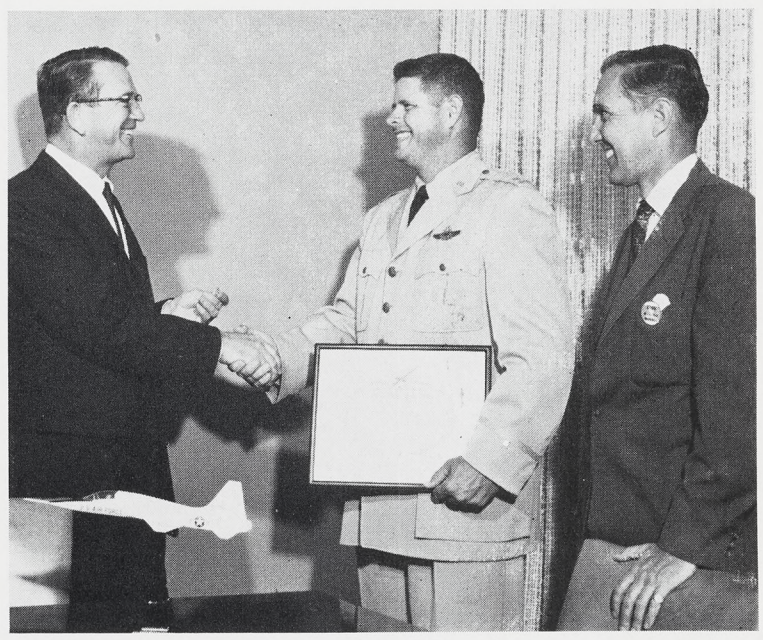
SCIENTISTS OF 1979—Anne Louise, the daughter of Nortronics' Louie Ramirez, is in kindergarten at Billy Mitchell School. And they were studying airplanes, rockets and missiles. So Louie asked Norair Public Relations for T-38 and Snark films, models and pictures. The school arranged for a special assembly that included kindergartners through fourth-graders. Above, Louie explains Snark features to animated five-year-olds.

DOWN WITH RAZORS!—Norair Tech Reps George Shelton and Hank Young display luxuriant face foliage as they prepare for Presque Isle's Centennial celebration August 23-29.





RECOGNITION SCROLL—At left, Colonel Richard W. Beck, commander, 702nd Strategic Missile Wing, Presque Isle, is presenting a scroll of recognition to Nortronics' R. A. Lewis. Honor was accorded Lewis for his efforts in activation of the Snark base at Presque Isle. Gaylord Anderson, general supervisor, Field Operations, at right, heads Maine-based team of both Norair, Nortronics personnel.



AIR FORCE OFFICER COMMENDED—Captain Swart Nelson, ARDC test pilot for the T-38 Talon, is commended and congratulated by Richard R. Nolan, vice-president and Norair general manager, for his outstanding flights in the T-38. Looking on is M. C. Haenke, director, Customer Relations Active Projects. Captain Nelson set an "Air Force first" recently when he took the T-38 aloft on its fifth flight. Normally, the Air Force does not fly a new plane until it has been airborne many times. Mr. Nolan presented the veteran combat and test pilot with a special T-38 Talon lapel pin and a certificate of achievement.

BBSF Classified Ads

Items advertised in "For Sale" and "For Sale or Trade" categories are limited to a maximum of $50. Price must be stated.

Ads for agencies, commercial enterprises and private businesses are not accepted.

Deadline is noon Monday, nine days before publication.

FOR SALE

LUGGAGE RACK, metal, repainted, $10. TE 3-0889. A

SPRINKLER SYSTEM VALVES, 6-solenoid-type, w/power supply, $25. GR 2-2031.

STOVE, Biltwell, $40. OR 1-6486. A

WASHER, Kenmore semi-automatic, $20. FR 4-5852. A

WRISTWATCH, Benrus lady's 17-jewel, pink gold, cost $85, needs new crystal, $17.50. FR 9-9616. A

TRAIN EQUIPMENT, American Flyer, 5 cars, 18-pc track, tunnel, mirror lake, tree, highway signs, farm animals, on 48"x76" board, $30. OS 6-9637. A

BICYCLE, girl's 26", $15. FR 5-6487. A

CUCKOO CLOCK, w/music box, $10. PL 6-1129. A

SWING SET, swings, 2; bar; $10. DA 4-6203. A

SCREEN/ROOM DIVIDER, oriental-type, black & white, 6', 4-fold, cost $70, $30. OR 2-5782. A

WASHER, 1953 Kenmore automatic, $50. FR 5-9467. A

BABY EQUIPMENT, playpen, stroller, hi chair, swing, car seat, $15. FR 9-1594.

SHOP EQUIPMENT, band saw, Atlas 10", w/new blade & rubber tires, cost $60.85; hardwood table saw, w/extra 8" blade; $47. Box 1902. A

DOORS, interior-type, 3, 3-panel, 32" wide, $10 ea; interior-type, 3-panel, 24" wide, $8; exterior-type, 6-panel w/mail slot, 36" wide, $15. DA 4-8084. A

FURNITURE, sectional, 2-pc, $25; bed, double-size, $25. OS 5-9391. A

ROLLER SKATES, girl's size 6½-7, white shoe-type, precision wheels, pro stops, w/case, $30. FR 2-3205. A

MODEL AIRPLANE ENGINES, w/props; McCoy 19 Redhead, $15; Jap OS-29, $6; Olson & Rice 23, $6. OS 5-4271. A

MASSAGER-LOUNGE, Peerless, $45. Box 1903. A

MODEL AIRPLANE, Berkeley P-40 stunt-type, semi-scale, new McCoy 35 engine, $15. OR 3-3768. A

TRAILER, $30. FR 6-4932. A

STROLLERS, 2, reclining-type, green & yellow, $10. DA 6-0895. A

CLARINET, Boosey & Hawkes, recently overhauled, $50. OX 2-4523. A

FAN, GE 17", completely enclosed, intake & exhaust, thermostat, $50. DA 4-3912. A

WRISTWATCH, Benrus lady's 17-jewel, $25. HE 6-1622. A

MUSIC CENTER, Zenith, mahogany; radio, AM/FM; record changer, Cobramatic variable-speed; $50. DA 9-1053.

FENCE, snow-type, 3'x50', $5. FR 5-9985.

REFRIGERATOR, Coldspot, $25. DA 4-4750. A

CEDAR CHEST, $15. PL 5-2723. A

BABY EQUIPMENT, bathinet, $10; bassinet, w/new pad, $7.50; $17 for both. Box 1904. A

TIRES, 2, 6.70x15, 3-mo-old, $10 ea. TO 2-3758. A

SHOP EQUIPMENT, Craftsman power-type; sander, $12; circular saw, $18. FA 8-2800. A

SCREEN DOOR, 32"x80¾", $3. DA 7-9084. A

SWING SET, w/glider attachment, $12. FR 9-2659. A

REFRIGERATOR, Coldspot 9-cu-ft, $50. OS 6-6074. A

BED, double-size, mattress, box spring, w/adjustable bed frame, $35. FR 9-5690. A

HAM EQUIPMENT, mobile whip, Master all-band, extra-heavy-duty spring base, 3' bottom section, loading coil, 5' top section, $35; vertical, 33' self-supporting-type, $15. OS 9-1067 Sundays only.

SURFBOARD, balsa, $50. FR 4-4179. A

WANTED TO BUY

LAPIDARY EQUIPMENT, OS 6-9637. B

BICYCLE, girl's 26", $10. FR 9-9616. B

OWNER'S MANUAL, 1951 Mercury. Box 1905. B

FREEZER, approx. $75. FR 5-6487. B

FISHING EQUIPMENT, rod & reels, 2, salt-water-type. Box 1901. B

TRAILER, vacation-type, $100. FA 8-3306. B

BATTERY CHARGER, for 6V battery. PL 2-9597. B

SHOP EQUIPMENT, grinder. DA 4-6203.

TENNIS RACKET. Box 1906. B

FOR TRADE

FORD, 1956 Victoria Fairlane 2-dr, trade for 1958 or 1959 station wagon. FR 5-8779. C

PERSONALS

CLASS REUNION, Leuzinger High, Class of 1939. OS 5-1253.

RIDE WANTED, Ohio or vicinity, approx. July 11, 2 women want to share expenses & driving. FR 2-3893. L

DIAMOND VETERANS— Norcrafters, who starred in softball during the Forties, are shown before exhibition game which opened NRC softball season. Front row: Snuffy Smith, Ray Colgan, Tom Blair, Mascot Tommy Blair, jr., Bert Osterberg, Harry Clark; standing: Walt Osterberg, Carl Lippon, George Babajian, Frank McLarney, Frank Colombo, Alex Kratofil, Tom Duddleston. Northrop All-stars beat OBGs in 9-2 slugfest.

PLAY BALL — Presenting the horsehide in opening ceremonies is John B. Clark, director, Industrial Relations. From left: Tom White, umpire; Frank McLarney, assistant manager, OBGs; Walt Graves, manager, All-stars; Ray Colgan, manager, OBGs; Mr. Clark; Bill de la Garza, umpire.

OBGs Live Up to Name in Season Opener

RIDES WANTED

7:30 a.m. — 4:15 p.m.

FIGUEROA & 235th ST., Wilmington. Dorothy Merritt, ext. 2763. 3

EL SEGUNDO BLVD. & POMONA, Hawthorne. Jean Nadeau, OS 9-4170. 3

CALIFORNIA & SYCAMORE, El Segundo. Marvel Koren, ext. 1721. 3

MANHATTAN BEACH BLVD. & ROWELL, Manhattan Beach. Alvina Renfro, FR 6-2372. 3

NICOLAS & ORANGETHORPE, Fullerton. Walt Keen, LA 5-2254. 3

IMPERIAL & STUDEBAKER, Norwalk. W. L. Goodwin, UN 4-7560. 3

LONG BEACH BLVD. & WILLOW, Long Beach. Madelyn King, GA 7-5502. 3

8:00 a.m. — 4:45 p.m.

ARBOR VITAE & HINDRY, Los Angeles. Edith Farkas, OR 7-7468. 5

DEL AMO & ORANGE, Long Beach. W. T. Covert, GA 3-1363. 5

DENKER & 83rd ST., Los Angeles. Dorothy Minnich, PL 9-9775. 5

3:45 p.m. — 12:15 a.m.

PICO & WESTMORELAND, Los Angeles. Cleo Morrison, DU 9-7858. 6

RIDES OFFERED

7:30 a.m. — 4:15 p.m.

NICOLAS & ORANGETHORPE, Fullerton. Walt Keen, LA 5-2254. 13

IMPERIAL & STUDEBAKER, Norwalk. W. L. Goodwin, UN 4-7560. 13

BARRANCA & SAN BERNARDINO FRWY, Covina. R. J. Hallowell, ED 2-4409. 13

Pode Gives Space Talk at Merchant Marine Meet

Dr. Leonard Pode, Northrop-Norair Airborne Electronics engineering specialist, delivered a scientific paper on "Requirements for Satellite Rendezvous" at the 15th Annual Meeting of the Institute of Navigation, Merchant Marine Academy, Kingspoint, New York, recently.

The paper was prepared jointly with Norman V. Petersen, chief of Norair Astronautics.

Dr. Pode joined Norair's engineering staff last Ocober. Before this, he served on the engineering staff at Space Technology Laboratories. He is a graduate of Brooklyn College and received his doctorate from the Catholic University in Washington, D. C.

ATKINSON AND BAGBY ATTEND NCR SEMINAR

Two Instrumentation Development Lab Norcrafters, John M. Atkinson and Leland W. Bagby, recently attended a seminar in advanced digital computer techniques of The National Cash Register Company Electronics Division, Hawthorne.

The week-long seminar was the first held by NCR for private industry. A total of 22 representatives of 11 West Coast prime weapons contractors attended.

All were presented certificates of attendance by D. E. Eckdahl, division manager.

During the week, the group heard lectures by senior staff members in specialized fields of computer research, development and application. NCR also gave an accelerated version of its internal course in computer fundamentals.

Norcrafters To Make Big Splash in Leuzinger Pool

Next Monday Norcrafters will be plunging off the deep end—and the shallow end, too—at Leuzinger High School's swimming pool.

The Northrop Recreation Club has rented the school's swimming facilities for six weeks, from July 6 through August 12. This NRC program, free to all Norcrafters, is slated for Mondays and Wednesdays, 5 to 7 p.m.

Mondays are family days—with the pool's four-foot shallow end reserved for the juniors. All children must be accompanied by their parents. Wednesdays are for adults only. The pool is equipped with both high and low diving boards.

Admittance is by presentation of Northrop ID card.

Swimsuits and towels are required and, in addition, ladies must don bathing caps. School officials have suggested that no valuables be left in the lockers.

Reveille Sounds at 2 a.m. For NRC Deep Sea Fishers

Anglers will be casting for the big ones on the NRC's chartered fishing boat, the 40-foot Reveille.

Departing from Pacific Landing, Long Beach, the boat has been reserved for the following Saturdays: July 18, August 15, September 19 and October 17. Anchor will be weighed at 2 a.m.

A reel will be awarded on each outing for the biggest fish.

Accommodations are limited to 17 passengers, with bunks available for 12. Charge is $11 per person.

Reservation forms are available at all Personnel Activities offices.

Further information regarding reservations may be obtained by calling Don Greco, extension 2784.

Lifesaving Method To Be Demonstrated At Surf Fishing Meet

Guest speaker for next Monday's regularly scheduled meeting of the NRC Surf Fishing Club is James Maher, senior life guard for the city of Santa Monica.

He will speak on the different phases of water safety and present a live demonstration on the modern method of artificial respiration. It was noted by Commissioner John Pawlicki that NRC's Play It Safe program underscores knowledge of this vital technique.

The meeting is at 7:30 p.m. in the NRC Clubhouse, 175 North Hawthorne Boulevard.

THIS FRIDAY IS HOLIDAY FOR NORCRAFTERS

All Northrop-Norair facilities will be closed on Friday, July 3, in observance of Independence Day. This is a paid holiday for all Norcrafters on the active payroll.

All hourly and nonexempt salaried personnel, not on leave of absence, will receive eight hours' straight-time pay for that day. Those on vacation will receive an extra day's pay to allow for the holiday.

Exempt salaried personnel on vacation will receive an extra day of vacation as compensation.

Paychecks for the week ending June 28 will be distributed Thursday.

NRC OPEN TEES OFF AT LOS SERRANOS LINKS

Driving down the fairway and, if need be, chip-shooting out of the rough are the aims of the 20 Norcrafter foursomes who will participate in the upcoming NRC Northrop Open.

All this activity will tee off at the Los Serranos golf course on consecutive Sundays, July 26 and August 12, at 12 noon. Each links quartet will play 36 holes.

Entry forms are available at all Personnel Activities offices. There is a $5 green fee and a $1 charge for prize fund. Deadline for registration is Tuesday, July 14.

T-38 Talon Supersonic Trainer

Northrop-Norair News

Issued biweekly by Norair Division of Northrop Corporation • Wednesday, July 15, 1959

TALON SHOWS FLIGHT WARES

Sharp with the Snark—Team "E"

HONORS AT THE CAPE—Graduating on June 2 from Crew Training School with highest Snark honors is team "E" with record as most proficient during this first period. Presenting Norair-sponsored plaque in recognition is Norair Training School Supervisor R. W. Quinn. In center, left to right are Captain R. M. Connor, commander, SM62-2 detachment, and Major J. W. Snyder, launch officer. Standing, from left are Master Sergeant E. G. Wise; Staff Sergeants P. L. Conway; J. W. Henson; Technical Sergeant M. T. Gibson; Master Sergeants E. W. Kwiatt; C. E. Johnstone; Airman/1C L. J. Rix; Airman/2C L. B. Barringer; Staff Sergeants H. C. Vernelson and G. D. Conwell. Boys were scheduled for Presque Isle upon graduation. Next contingent will complete training in August, second plaque-winning team will be selected. Note "bird" in background.

WEIGHTLESS FLIGHT, TRANSONIC, LOW SPEED, SINGLE-ENGINE

The T-38 Talon is showing her aerodynamic wares in handsome fashion at Edwards Air Force Base.

Last Thursday, both test aircraft were aloft at the same time on two separate missions. Pilots were Nelson and Chouteau.

The Talon has checked out her low-speed stability, weightless flight, single-engine flight capability.

The Talon has also demonstrated outstanding transonic flight characteristics. As previously reported, and although the test program has been most rigorous, the airplanes have required no maintenance repairs in the primary systems since the program started April 10.

Specific reports by Chief Engineering Test Pilot Lew Nelson revealed that—

Being flown through the stall, the aircraft remains controllable on all three axes. Stall speed is extremely low for supersonic aircraft.

Weightless flight has figured prominently in the gathering of

(Continued on Page 2)

Presque Isle AFB Now SAC

Presque Isle Air Force Base is now officially the nation's first intercontinental missile base, it has been announced.

Transfer from the Air Defense Command and the Scorpion squadrons long stationed there, has been made to the Strategic Air Command with the Northrop Snark missiles.

Formal transfer of the base was marked by a parade of troops and a ceremony in which Colonel George E. McCord, commander of the 23rd Fighter Group, turned over command of the air base to Colonel Richard W. Beck, commander of the 702nd Strategic Missile Wing.

Colonel Beck then presided at the Base-Community Council's luncheon session at the officers' club. The group represents city government, civic groups, information media, and other aspects of community life with corresponding officers from the base.

The Norair-Nortronics team at the base is headed by Gaylord Anderson, general supervisor and site administrator. The team includes Norair and Nortronics men from many phases of missile technology including engineering, electronics, facilities experts, technical representatives and others.

N-156F Test Team Named For Edwards

With the Freedom Fighter N-156F scheduled for Edwards this week, the US Air Force has formally announced the project test team for the airplane.

Assigned to the fighter's test program were Lieutenant Colonel James C. Pedersen, project officer; Captain Norvin C. Evans, jr., project pilot; Captain Louis C. Setter, systems evaluation engineer; and Charles C. Crawford, project engineer.

Colonel Pedersen is a command pilot and a graduate of the University of Illinois, with a bachelor of science degree in engineering. During World War II,

(Continued on Page 2)

AID Congratulations

TO ALL NORAIR PERSONNEL

On July 31, 1959, the Aid and Nor-Aid programs will have completed another year of successful operation in the Norair Division. As a weekly contributor to Aid and Nor-Aid, I am proud to share with you the comforting knowledge of the good our team approach to charitable contributions is doing.

By pooling our contributions to Aid and Nor-Aid we are able to fulfill our responsibilities as citizens in supporting many deserving charities in their health, welfare, educational and research programs. The formula created by Aid for the distribution of charity dollars given by Northrop personnel helps insure continued support of charities within the towns and communities where Northrop personnel reside.

Through Nor-Aid we have a dynamic example of the philosophy of "all for one and one for all" by providing financial assistance to Norair families overtaken by disaster, illness, or other dire need.

Our 1959-60 Aid and Nor-Aid "refresher" campaign will start July 20 and continue through July 31. I hope you all will join with me in support of this worthwhile program.

RICHARD R. NOLAN
Vice-president and
General Manager

Management Club Will Honor 20-year Men Next Meeting

Norair Management Club will honor the first nine 20-year members of supervision and management at the next meeting, August 7, it has been announced by Elmer Noonan, president.

The nine "old timers" will receive the pins from the four top Company officers. Quartet is composed of President Thomas V. Jones; Dick Nolan, vice-president and general manager, Norair and who will also be a recipient; Kip Tuttle, vice-president and general manager, Radioplane; Dr. W. F. Ballhaus, vice-president and general manager, Nortronics.

The 20-year M-C members to receive pins are Paul Bonham, engineering specialist; Bob Catlin, director, Quality Control; Tom Chittenden, assistant superintendent, Materiel; Walt Gage, Credit Union treasurer and manager; Roy Lindstrom, captain,

(Continued on Page 2)

SECRETARIES TO TAKE PART IN INTERNATIONAL

Key Northrop secretaries will participate in the up-coming International Convention of the National Secretaries Association, it has been announced.

The convention will be held July 19-25 in the Americana Hotel, Miami Beach, Florida.

From the Norair Cape Canaveral facility Kathy Dearstyne, secretary to M. H. Lafferty, and Nancy Mabrey, secretary to Will Tebo, will attend.

Kathy is president and a charter member of the Cocoa Beach chapter.

From Hawthorne, Joan Olson, secretary to Milt Kuska and Edna Parker, secretary to Nortronics' Dave Lewis, will also attend. Joan is recording secretary and Edna

(Continued on Page 2)

FUN STI VAL AUG 9!

What's the Answer?

Do you have a question? The Norair News *will welcome questions on any subject of common interest and will get the correct answer from the people who know. All questions will be answered, either through the column in the* News *or by memo or telephone call to the requester when the inquiry lacks sufficient common interest for all Norcrafters.*

Queries are to be directed to the Editor, Norair News, *organization 1320, zone 65. Inquiries may be signed or not, as you wish.*

Question

"Is the Northrop cafeteria a money making enterprise?"

Answer

"No. The Norair Division cafeterias are operated by the company for the convenience of all personnel, including those of other companies employed on our premises, and are operated on a "break even" financial basis.

"The cafeteria system is comprised of three cafeterias, two snack bars and four mobile food carts called "chuck wagons". The purpose of the cafeteria system is to provide nutritious, appetizing food, of good quality, prepared under clean and sanitary conditions; to serve it in a courteous manner and to maintain clean and pleasant service surroundings.

"The cafeteria operation is charged with the responsibility of providing this service but must maintain reasonably priced food. It is expected to pay all expenses in connection with its operation including such items as cost of food, cost of payroll, laundry and uniform expense, cleaning supplies and expense of expendable equipment plus other miscellaneous expenses.

"The cafeterias are dependent upon your support to maintain the high level of food quality and service that we presently enjoy.

"Note: Because the cafeteria is operated by the company for the benefit of the personnel, no taxes are added to the cost of meals."

Question

"Why the drastic cut in Norair News space allotted to classified ads?"

Answer

Space allotted to classified ads in the Norair News was curtailed when the format of our newspaper was reduced to four pages for reasons of economy. When circumstances permit expansion of the News format, additional space will be allotted to classified ads.

Question

"Is it possible for the company to establish a crosswalk across Broadway opposite Gate 4A?"

Answer

"Many of you will recall when Gate 4A was a driveway entrance to the east of Plant 1 and used principally for vehicles. However, with the advent of the new cafeteria and Science Center, the crosswalk across Broadway was moved further east. In addition, the company increased the size and usage of parking lot 0 between Nortronics and El Segundo which created more pedestrian traffic across Broadway.

"Now that the old east clockhouse has been torn down and the fences removed from that area, Gate 4A driveway has become the most direct path from Plant 1 across the street to Nortronics or to Parking Lot 0, and has led to considerable dangerous, jaywalking and illegal crossing of Pacific Electric's right-of-way and train track.

"This problem was recognized by the company several months ago and the wheels were started in motion to obtain permission from Pacific Electric to establish another legal pedestrian crossing over their right-of-way track. Northrop only recently has been given this permission and we have agreed to pay for the expense of lowering the track and black topping the crossing. As soon as this construction is complete, which is estimated to be approximately 30 days, the company will request the City of Hawthorne to mark a crosswalk across Broadway at this location which will complete the project. You will be advised by general announcement to all personnel when the crosswalk is ready for use."

Question

"Why are employees on layoff required to contact the company each 90 days in order to retain their seniority?"

Answer

"In accordance with our seniority provisions, when an employee is laid off, his name is placed on the recall list by job classification by company seniority. To maintain recall rights, which also includes accumulation of seniority for up to 24 months from the date of layoff, the employee on layoff must notify the Personnel Office each 90 days of his correct mailing address. The main purpose of requiring the employee notification is so that the Personnel Office can maintain a list of employees available for recall and who can be reached promptly at a correct address. Past experience indicates that many employees will move during the 24-month recall period.

"Our recall policy allows four working days for an employee to respond to a recall notice. Without correct addresses and an accurate list of employees interested in recall there would be much waste of time and effort. Not only would the company lose but those employees on the recall list who are interested in returning to work would be penalized by needless delay without the system of employee notification."

The Talon

(Continued from Page 1)

accurate air loads data for the Talon. In checking calibration of air loads instruments, the twin-jet T-38 was put into "roller-coaster" maneuvers to obtain several seconds of "zero G". Repeated many times, "zero G" flight provides accurate instrumentation reference for future air load determination.

RELIGHT

Single-engine flight capability, a key safety factor in the twin-engine Talon's training mission has been proved repeatedly. To evaluate single-engine capability, at altitude the pilots shut down one of the two GE J-85 turbojet powerplants, perform flight maneuvers, then relight the dead engine. The engines have never failed to restart in flight. Included in this evaluation is the independent operation of the Talon's twin electrical hydraulic and fuel systems. Each engine drives a separate hydraulic pump and generator and is fed by a separate fuel system. In the event of engine failure, each of the systems can safely take on the workload of its twin—even for extended periods of flight.

Outstanding transonic flight characteristics of the T-38 Talon make it impossible for the pilot to feel the transition through Mach 1, Nelson reports.

"As predicted by aerodynamic analysis and wind tunnel tests, the T-38 has none of the transonic problems usually encountered by supersonic aircraft," Lew said. "The T-38's clean aerodynamics make the transition from subsonic to supersonic flight so smooth that the pilot must watch the instruments to detect it.

DAMPERS OFF

"We have even flown T-38s through Mach 1 with pitch and yaw dampers turned off, and found flight characteristics satisfactory and as predicted," he said.

Not a single aerodynamic change has been indicated in flight investigation of the T-38's basic performance envelope, from stall to supersonic velocity.

NO REPAIRS

The primary airplane systems in the T-38s have required no maintenance repairs. These primary systems are electrical, hydraulic, fuel, flight control, and landing gear systems.

No system design changes have been indicated in test results.

The T-38's high reliability is attributed to the extensive component and system testing program which accompanied development of the aircraft.

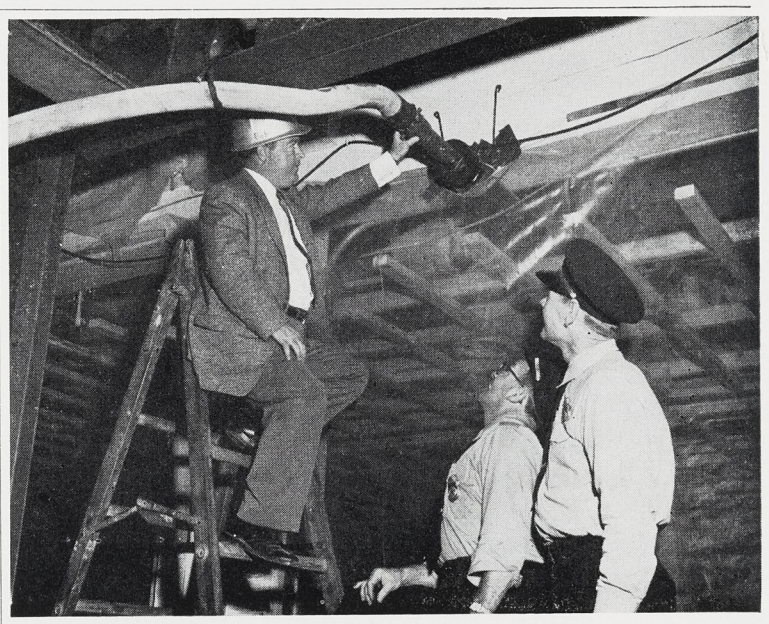
These tests were carried out in the Norair engineering laboratories, which rank among the most completely equipped facilities of their kind in the world.

M-C, Pins

(Continued from Page 1)

Protection Service; Dick Nolan, vice-president and general manager, Norair Division; John Pfarr, project engineer, Radioplane; Tom Quayle, manager, Systems Support Department, Nortronics; and Carl Raker, foreman, Electrical.

Speaker for the meeting which will be held at the Cockatoo, Imperial Highway and Hawthorne Boulevard, is Bill Thompson, director, Public Service, for Union Oil Company. His topic will be "Civil Awareness".



FIRE PROTECTION—Sprinkler system readiness as Nortronics' environmental test lab project is under way was illustrated by Jim Bartlett, Norair fire prevention advisor on ladder and fire inspectors Fred Cutler and Herb Kessler. Norair firemen used standard 2½-inch fire hose to keep sprinklers under pressure in spite of extensive Broadway Plant alterations. Double exposure effect is caused by transparent plastic drape. Nortronics' new environmental test lab, to be used for systems testing, must be dust free.

Sprinkler System Normal In Spite of Alterations

Norair's fire laddies have fired a fire-prevention bull's-eye to aid and assist Nortronics' environmental test lab construction project.

During the past three weeks, Nortronics folks have been building a new spic-and-span environmental test lab in the Broadway Plant. This called for remodeling, refurbishing, moving of walls and relocating of service equipment. The new test lab will be dust free to better handle the delicate guidance and electronic systems under way there.

But the problem.

In the course of change, a portion of the vital Broadway sprinkler system had to be cut. It was unthinkable that the plant's fire protection be less than adequate. Costly, almost irreplaceable test instruments, quality products, yes, and human life must always be guarded.

Jim Bartlett, Norair fire prevention advisor, and the boys of the organization put their idea caps on. Came up with a solution 100 per cent approved by the underwriters.

Jim hooked up a regular 2½-inch fire hose to the main sprinkler line, circumnavigated the building activity, and tied into the area sprinklers with full 100 pounds pressure.

"We're proud of this little idea," said Norair fire inspector Herb Kessler. "It sure did the job."

"Norair and Nortronics are completely protected at all times by sprinklers," said Jim Bartlett. "Always have been. When you know as much about fires as we do, you don't take chances."

Test Team

(Continued from Page 1)

he flew as a combat pilot in the European theater. He has been in the U.S. Air Force since 1941. Colonel Pedersen also serves as test director for the T-38 program at Edwards.

Captain Evans, a graduate of George Washington University, will be the first military man to fly the N-156F. Before his assignment to Edwards AFB, he served as a test pilot at Wright-Patterson AFB, Ohio. Captain Evans is a veteran of World War II and the Korean conflict. He has been awarded the Distinguished Flying Cross, Air Medal with 12 oak leaf clusters and four Battle Stars.

A 1948 graduate with a bachelor of science degree in engineering from Georgia Tech, Captain Setter will head the systems enginering program on the N-156F. He is a senior pilot and a graduate of the Air Force's Test Pilot School. His decorations include the Distinguished Flying Cross, Air Medal and the Outstanding Unit Award.

Mr. Crawford, formerly a test pilot with the Air Force Flight Test Center at Edwards AFB, is a graduate of the Georgia Institute of Technology and holds a bachelor of science degree in aeronautical engineering. Prior to his assignment with the Air Force, he was a project engineer with Douglas at Long Beach and worked on the KC-135, C-130 and the Convair 880.

Captain Swart H. Nelson, Air Force project pilot for the USAF-Northrop T-38 Talon, although not assigned as a member of the N-156F testing team, will assist the group in an advisory capacity.

Secretary

(Continued from Page 1)

is treasurer Airborne Chapter, Centinella Valley.

Other Florida Norcrafters active in the Cocoa Beach Chapter are Betty McCuiston, secretary to Jack Cushman, who is vice-president, and Elinor Morgan, secretary to James Turney, who is corresponding secretary.

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CHARLES BARR, Director

CHARLES BRADFORD, Editor

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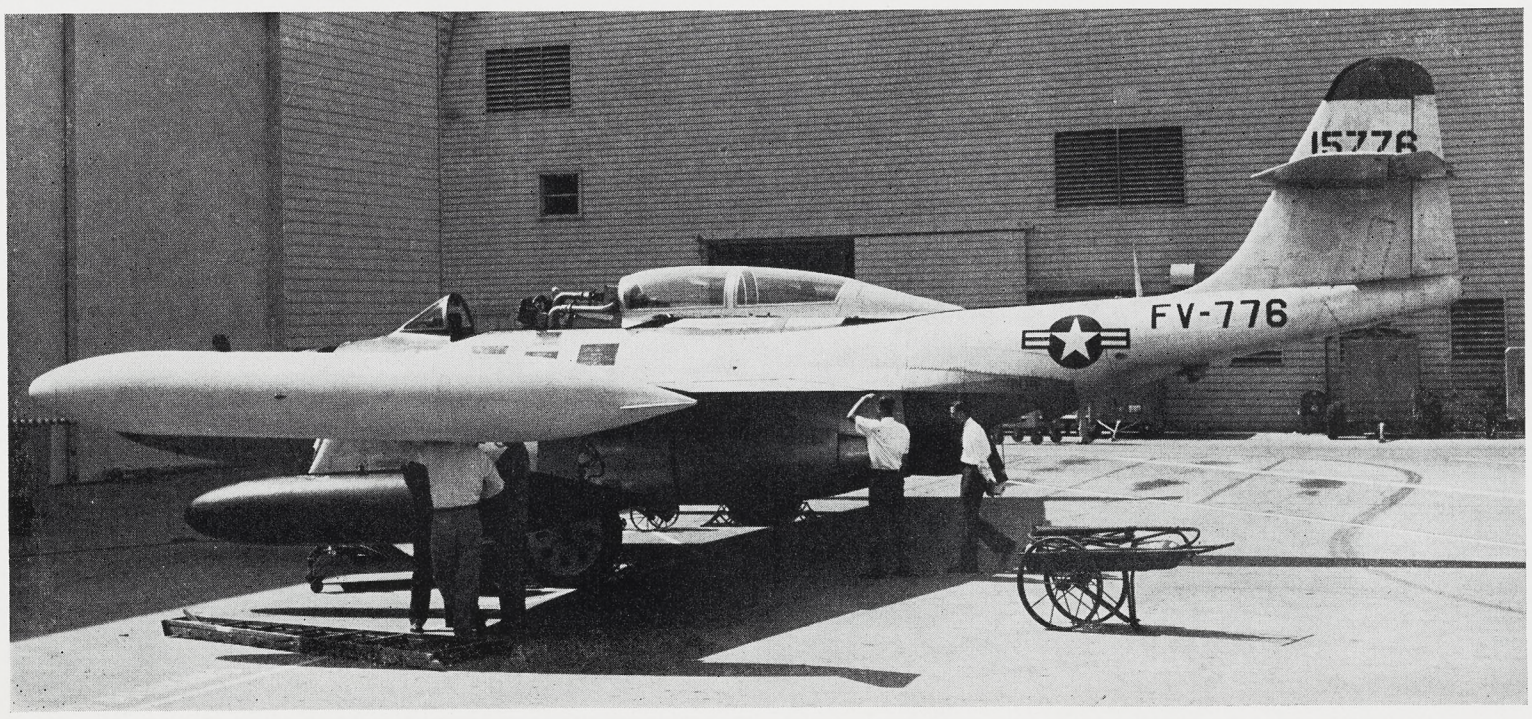
Norair News Pictorial

FIFTEEN-YEAR NORCRAFTERS—Convening in the Board of Directors room, 15-year folk enjoy pleasant ceremony, recount Company experiences and receive pins from Bob Lloyd, vice-president, Manufacturing, center. List of names—17 are in photo: Arthur Bagu'ey, Helene Blaire, Maxine Boyer, Joe Brandenburg, Genevieve Brooks, Josephine Brunner, Marvin Crum, Margaret Crumbliss, Charles Fromer, Theodore Herzog, Clifford Hilton, Ida Huntington, Siemon Jackson, Arthur Kile, Viva Murphy, Bill Richardson, William Schramm, Gladys Spence, Harold Taylor, Carlos Uribe and Max Winimiller. Records show that since 1954, Company 15-year anniversary, 1374 pins have been awarded. Fifteen year pin has diamond setting.

NIGHT 10-YEAR NORCRAFTERS—John Breneman, director, Night Operations, fourth right, presents pins to night Norcrafters whose service aggregates 100 years of building fine aircraft. From left, Robert Owens, Irwin Carpenter, John Scarbrough, Charles Considines, J. D. Gordon, Grace Stillwell, Rhonald Metro, Mr. Breneman, Cliff Roberts, Alfred Siemianowski, Francis Ulrich. Breneman, near 20-year man; a first prexy NRC.

T-38 LOGISTICS—Norcrafter Bob Keleher, now on assignment as Norair rep to MAAMA, Olmsted Air Force Base, as part of Company T-38 logistics support program, confers with Major General Paul E. Ruestow (right), commander, Middletown Air Materiel Area, and Norair Logistics Chief R. G. "Bud" Bredesen. General Ruestow admires scale model of the Talon. Bob's assignment signals extensive and thorough preparations for T-38 operational airplanes upcoming.

DEM GOLDEN SLIPPERS—First two Norair members of the Golden Shoe Club, a nationwide organization, receive certificates and pins from John Breneman, Norair director, Night Operations, and chairman, Norair General Safety-Conservation Committee. Golden Shoe Club membership is on basis of having forestalled serious foot injury by the wearing of safety shoes. Ralph Hubbard, Machine Shop, left, dropped sharp-edged heavy extrusion onto his foot. An 800-pound rail fell on the toes of Fred Mackelrath, Maintenance, right. In neither case, because of safety shoes, was any injury sustained.



Home

HOME — But not to roost. F-89 from Eglin arrives at experimental hangar to pioneer Northrop-Norair development on tow reel target launcher and retriever. Air Force Air Research and Development Command contract is under jurisdiction of Associated Projects. F-89 will move to Edwards soon for development flight test. Norair, Anaheim-built, tow reel received baptism in Africa.

BBSF Classified Ads

Items advertised in "For Sale" and "For Sale or Trade" categories are limited to a maximum of $50. Price must be stated.

Ads for agencies, commercial enterprises and private businesses are not accepted.

Deadline is noon Monday, nine days before publication.

FOR SALE

RADIOS, 2, Philco Table-Model, Silvertone console ,$5. PL 4-8142. A

POWER MOWER, Rotary-type, $40. DA 4-3845. A

CLOSET, unpainted plywood, 42"x6'; sliding doors, $25. ST 9-2534. A

BICYCLE, girl's 24". $15. OS 5-1415. A

BICYCLE, Boy's, 20", German-made, $15. OS 5-1415. A

WASHER, Westinghouse Laundromat, $35. FR 6-3992. A

BASSINETTE, w/mattress & ruffles, $10. PL 6-2517. A

CHAIR, Green Club-type, $35. DA 4-6748. A

MATTRESS, Beautyrest extra-firm twin-size, cost $80, $45. FR 6-1636. A

WASHER, Maytag Wringer-type, $25. OR 7-6952. A

FURNITURE, desk & matching chair, mahogany, 4-drawer, w/glass top, $25. Chest of drawers, mahogany, 5 drawers, $20. FR 9-7023. A

WASHER, Hot Point 2-speed, $50. DA 7-9084. A

KITTENS, Siamese seal point w/papers, 8 wk old, $20. OS 5-1842. A

SHOTGUN, 12 gage w/ box of shells, $50. FR 6-6085. A

WATCH, Hamilton lapel-type, 17-jewel, w/safety clasp, adjusted movement, heart-shaped, 1yr guarantee, cost $150; $50. KE 5-9253. A

GYM EQUIPMENT, Health-way barbells & dumbbells, 140-lb set, w/Kline body-building courses, $25. EX 1-4860. A

PING PONG TABLE, w/net, paddles and balls, $20. HO 5-1380. A

DINETTE SET, formica table w/4 chairs, $20. DA 9-3195. A

GOLF CLUBS, 1957 MacGregor Tourney Tony Penna, woods 1, 2, 3 & 4, D4 swing-weight, stiff shaft, $50. AX 3-9215.

BAND SAW, Craftsman 2-wheel-type, 12" throat, 6"-cut capacity, 80" blade cost, $104.50; $50. GR 6-1581. A

TRAILER, Teardrop-type sleeps 2, $50. OS 6-9637. A

MOWER, Pennsylvania, 18" hand-type w/basket, 1-yr-old, $15. DA 3-7002. A

PUP, collie, Blue Merle, AKC, 11-mo-old, female, $50. FR 9-7224. A

PROSPECTOR'S DRY WASHER, 2, $18. EA 2-4508. A

BLANKET, G.E. electric, double-size, $11. EX 8-4032. A

STOVE, gas, $50. OR 1-8819. A

BICYCLE, Higgins boy's 26", $30. OR 7-3044. A

FURNITURE, sectional, rose; chair, dark green, $50. DA 9-1742. A

DINETTE SET, chrome, w/4 chairs, $25. FR 6-3228. A

WANTED TO BUY

SAXOPHONE, curved B-flat soprano-type. Box 2001. B

CAMPING EQUIPMENT—tent, trailer. AX 4-4768. B

TAPE RECORDER, portable. TO 2-2814. B

BANJO for 12-year-old to start on. FR 8-2714. B

GOLF CLUBS, women's. DA 3-3150. B

FOR TRADE

AIRPLANE PLANS, complete set w/ photographs, 1- & 2-place Stitts Playboy, trade for complete set of plans of Smith Miniplane, Mong biplane, E.A.A. biplane, or Knight Twister. OS 5-2869. C

CAR PARTS, bellhousing adapter for Olds engine to Ford transmission; heavy-duty Olds clutch, flywheel & 2 Ford transmissions, trade for dual-range hydromatic. TE 1-3300. C

PADDLE BOARD, 10', plywood, $25 or trade as part payment on 8'-9' Balsa surfboard. FR 4-6076. C

FREE (to be given away)

PUPS, 3 female, mixed, 6-wk-old; male, mixed, small, 6-mo-old. FR 9-7564. D

LOST

PENCIL, lost Sheaffer, black & gold. FR 7-1253. J

FOR SALE OR TRADE

PUP, water spaniel, 9-mo-old, $5 or trade. OR 2-8307. M

DINING SET, Duncan Phyfe, walnut, $50 or trade. Maple cocktail & two matching step tables. PL 3-8188. M

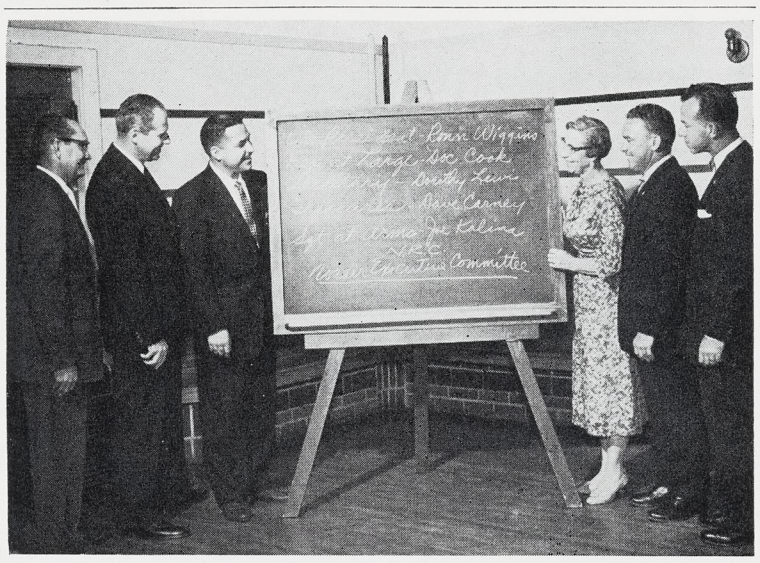
HAWAII CALLING NRC TRAVELERS

NRC Travel Club folk will meet July 27 at the Clubhouse to blueprint a 14-day trip to Hawaii.

Tentative transportation will be Pan-Am to Kaiser Village at $348 each.

Tentative date is targeted for May 15 through 28, 1960.

DODGERS LEAD IN AMERICAN LEAGUE



PROUD OFFICIALS—Elected and now installed—July 11—new Norair NRC Council officers review blackboard at clubhouse posting their offices. From left, Doc Cook, rep-representative-at-large; Boyd Corwin, past vice-president and immediate past president, NRC Board. (Boyd recently terminated for another position.) Ron Wiggins, vice president, Norair Council; Dorothy Lewis, secretary; Dave Carney, treasurer; and Joe Kalina, sergeant-at-arms. Wiggins and Cook join NRC Board composed of vice-presidents and reps-at-large from all Divisions. NRC offers over 40 activities, recreational, cultural from archery to travel. All Norcrafters are cordially invited to participate. Norair officer family above also serve as the executive committee.

Tied for home-run honors are Jim Schuessler of the Pacific Coast League's Spacers and Tom Sellinger and Larry Pitt from the National League's Hi Brows and 59XX. These three stalwarts have two apiece.

Pitching honors are also tied with night-shift hurler Jerry Schisser—5502, Bob Taffee—Red Hots and George Higgins—59XX with five won and one lost. However, "Sad" Jack Jones of the American League's Dodgers is strong with three and none.

Taking off with the batting honors is Mart Martinez, night-shift, El Segundo. He has four hits for five at bats for a Hank Aaron-type 800 per cent.

AMERICAN LEAGUE—first round

Dodgers	3	0
Aero	1	1
Nortronics	1	1
5400	0	3

Batting Leaders

	Pct.
Aero, Dick Wolpert	.500
Aero, John Patierno	.500
Dodgers, Frank Rosentiel	.428

Home-runs — Aero, Dick Wolpert 1; Notronics, R. Stastny 1.

Pitching—Dodgers, Jack Jones 3 and 0.

NIGHT SHIFT—1st round

5502	3	0
Nortronics	2	1
2520	1	2
El Segundo	0	3

Winner—5502

2ND ROUND

El Segundo	2	1
5502	2	1
Nortronics	1	2
2520	0	3

Winner—El Segundo

Batting Leaders

	Pct.
El Segundo, Mart Martinez	.800
2520, Pete Espinosa	.500

Pitching leaders — 5502, Jerry Schisser 5 and 1; El Segundo, Jim Foster 3 and 2.

PACIFIC COAST LEAGUE

1st round

Semenols	2	1
Ballhawks	2	1
Spacers	1	2
Harlequins	1	2

2nd round

Semenols	2	1
Ballhawks	2	1
Spacers	1	2
Harlequins	1	2

Batting Leaders

	Pct.
Semenols, Al Panella	.631
Harlequins, Mas Yasaki	.600
Semenols, Frank Carmelli	.588

Home-run leader — Spacers, Jim Schuessler 2.

NATIONAL LEAGUE—first round

59XX	5	1
Red Hots	5	1
Mariposa	2	3
Hi Brows	2	4
2800	0	6

Batting Leaders

	Pct.
Hi Brows, Dick Vincel	.667
Red Hots, Al Badish	.615

Home-run leaders—Hi Brows, Tom Sellinger 2; 59XX, Larry Pitt 2.

Pitching leaders — Red Hots, Bob Taffee 5 and 1; 59XX, George Higgins 5 and 1.

SPORTS CAR CLUB HAS BUSY FIRST TWO WEEKS—RALLYE AND C-H MEET

NRC Sports Car filberts have completed an active first two-weeks in July.

First the regular meeting on Thursday, July 9, at the NRC Clubhouse and then the rallye De La Pinturas, "a rallye of pictures" held July 12, at Norair's parking lot "H" on Crenshaw.

The Clubhouse meeting featured Karl McCready's speech and C. K. Enoch's handling of protests at the banquet following Sierra VI.

The rallye De La Pinturas, after the parking lot "H" start, wound up "somewhere in the beach area".

RIDES WANTED

7:00 a.m. — 3:45 p.m.

BERYL & IRENA, Redondo Beach. Mildred Teague, FR 9-5104. 2

7:30 a.m. — 4:15 p.m.

W. EL SEGUNDO & ROMONA, Hawthorne. J. M. Nadeau, ext. 1721. 3

8:00 a.m. — 4:45 p.m.

PARAMOUNT & SOUTH, Long Beach. Frank E. Guadagnini, ext. 1257. 5

PICO & BEVERLY GLENN, Los Angeles 64.. R. E. Mathewson, GR 7-9830. 5

REDONDO BEACH BLVD. & INGLEWOOD AVE., Redondo Beach. Peggy Towe, FR 6-5439. 5

DEL AMO BLVD. & ORANGE, Long Beach. W. H. Covert, GA 3-1363. 15

CONDON & 147th ST., Lawndale. P. W. Maggard, OS 6-3090. 5

7:30 a.m. — 4:15 p.m.

PRAIRIE & 111th ST., Lennox. Carol L. Taylor, OR 4-1336. 3

RIDES OFFERED

7:00 a.m. — 3:45 p.m.

DOWNEY BLVD. & FIRESTONE, Downey. C. E. Simpson, ext. 2225. 12

8:00 a.m. — 4:45 p.m.

DEL AMO BLVD. & ORANGE, Long Beach. W. H. Covert, GA 3-1363. 5

CONDON & 147th ST., Lawndale. P. W. Maggard, OS 6-3090. 15

PARAMOUNT & SOUTH, Long Beach. Frank E. Guadagnini, ext. 1257. 15

ARCHERS START INSTRUCTION EVERY TUESDAY

NRC Archery courses are now open for all Norcrafters at Peck Park, it is jointly announced by Commissioners Wes Williams, Norair and Mickey Mechling, Nortronics.

The course is scheduled for six-weeks and it is co-sponsored by NFAA and San Pedro Recreation Department. Special emphasis is on hunting and safety but the course covers all areas of archery activity.

Course completion earns participants an award ribbon.

Instructions are held on Tuesdays from 7 to 8 p.m.

Peck Park is two miles south of Pacific Coast Highway on Western Avenue in San Pedro.

NRC RIDES FROM GOOD LUCK BARN —AND TORRANCE

Norcrafter cowpunchers and their fair ladies will ride this coming Sunday, July 19, it is announced by J. W. "Tex" Statley, commissioner.

Bring your branding iron to the Good Luck Stables at 129th and Figueroa and be there at 2:30 p.m.

Price is $1.50 an hour.

Git along little buckskin. Hi-yo-yippee-yi-aye!

Also, and one week later, Saturday July 25, the club will participate in the Torrance Ranchero Days parade. Time for this event is 6 p.m. Members will sport their new outfits.

TENNIS TOURNEY ROUND-ROBIN

Norair tennis players will hold a singles Round Robin tournament next week, it is announced by NRC Tennis Club Commissioner Raoul Arredondo.

Matches will be held at El Camino College Courts.

There will be tennis balls for prizes.

SYMPHONAIRES WILL PRESENT PROGRAM SUNDAY

The NRC mixed chorus—the Symphonaires — will present a choral program followed by dancing and refreshments, it has been announced by Commissioners Verne White, Norair and Bert Thomas, Nortronics.

The program will be staged July 19, Sunday, 9 p.m., at the Garden Grove Church of Jesus Christ of the Latter Day Saints. The church is located between Harbor and Haster in Garden Grove.

Admission to the program is a donation of $1 a person.

Refreshments may be purchased at and during the dance.

Centennial Ready

NORCRAFTERS at Presque Isle on Snark base operations join with townsfolk in observance of upcoming centennial. Front row, from left, are Missile Field Test men Bill Kirk, Bob Melger, Pat Quinn. Rear, Jerry Tuttle, Missile Field Test; Jim Erath, Quality Control; Hank Young, Publications; and Glen Lanphear, Missile Field Test. Beards will prove to be password, countersign and ticket during big celebration. (See story, page 1, on Snark base.)

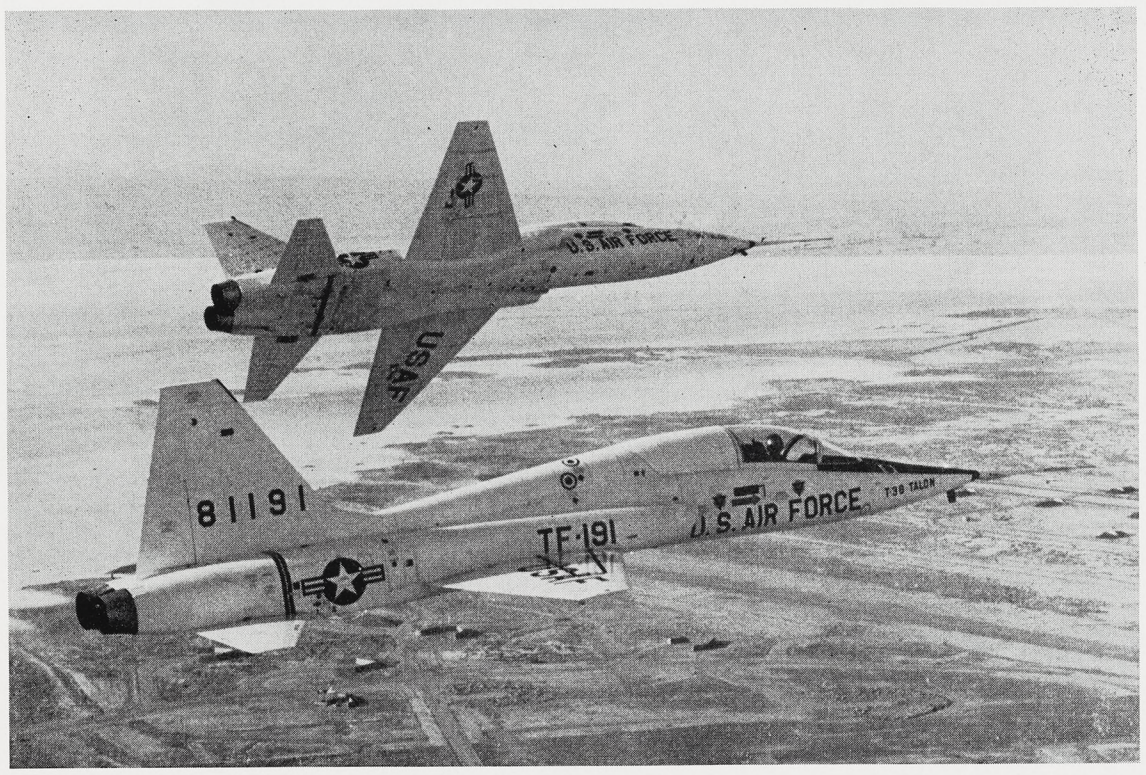
NRC SWIMMING AT LEUZINGER
Monday, family night—Wednesday, adults
5 to 7 p.m. POOL EXCLUSIVE

T-38 Talon Supersonic Trainer

Northrop-Norair News

Issued biweekly by Norair Division of Northrop Corporation • Wednesday, July 29, 1959

Talon Trainers Share the Air



SUPERSONIC TWINS—Two Norair Air Force T-38 Talon trainers are shown for the first time in flight together. T-38s have become known as the "busiest aircraft at Edwards Air Force Base" since flight testing began last April. They have now completed over 60 flights to prove out the performance and handling characteristics predicted for the design. The T-38 is being built by the Norair Division for the Air Training Command and will be used as the flying classroom for the Air Force's pilots of the future.

TALON FLIGHTS SET NEW MARKS

AIRPLANES LOG OVER 60 FLIGHTS

T-38 airplanes at Edwards, recently joined by their sister ship, the first N-156F, continued to make news during the past two weeks. Daily reports on the flight program reflect outstanding progress.

On July 24, the T-38 Talons completed test flight No. 63.

The total flights are shared by the two airplanes which carry out separate data-gathering missions in the test program.

Maintability and reliability of the Talon was demonstrated when the two airplanes logged two flights each from Edwards between 6 a.m. and noon.

Both aircraft were in the air at the same time in both flights. They logged a total of three hours and 35 minutes aloft.

The short turn - around time involved is considered exceptional for high performance jet aircraft in the early stages of a flight test program.

Previously, one T-38 logged three flights in a single day, and completed a total of seven in four consecutive working days.

Flying the T-38s in the double

(Continued on Page 2)

Pin Ceremony For 20-year Norcrafters

Company 20-year men will be given signal honors at the next Management Club meeting, it has been announced by Elmer Noonan, president.

Featured speaker will be Corporation President Thomas V. Jones. Mr. Jones will speak on Company affairs with emphasis on future prospects as well as problems.

Northrop men who will be given the coveted 20-year pins with their date of hire:

Tom Chittenden, chief, Materiel, night shift, August 20, 1939

Tom Quayle, manager, Systems Support Department, Nortronics, August 21, 1939.

Dick Nolan, vice-president and

(Continued on Page 2)

COST-OF-LIVING RAISE COMING

More than 12,000 hourly-rated personnel of the Norair, Nortronics and Radioplane Divisions of Northrop Corporation, will receive a two-cent an hour cost-of-living increase effective August 3.

The raise is based on a 0.8 increase in the Consumer's Price Index which reached 124.5 for the three month period ended June 15, 1959.

Snark Roars at Presque Isle

Last week, Presque Isle Air Force Base personnel heard the Snark's great engine roar for the first time.

An account from the Skyblazer, Presque Isle Air Force Base newspaper, states:

"Tilted at launch angle and ready to go, the Snark is somewhat louder when it reaches "full military" (engine running at top speed) than the average jet fighter.

"This first engine test run came off without a hitch. SMSgt. Donald Endicott, NCOIC of Missile Repair, described the test as "very successful." "It was one of the 'cleanest' dry runs possible. No technical difficulties were encountered throughout the test.

(Continued on Page 2)

Norcrafters From All Divisions to Holidayland For Annual Funstival

NRC Funstival headquarters has issued complete details on upcoming Corporation-wide funstivities planned for the gay setting of Disneyland's Holidayland, August 9—Sunday after next.

The day is completely packed for anticipants with antics, action and activity.

At 10 a.m. the Funstival gates will open. Just in case there are any Norcrafter Rip van Winkles, Holidayland adjoins Disneyland.

At 11 a.m., the softball tournament starts and continues through 1 p.m.

At 1:15 p.m., the big fun button will be pressed and the children and adult games start. These continue through 2:30 p.m.

At 2:30 p.m., the Disneyland park gates open and in the candy-striped tent, the first feature will be the Golden Horseshoe Revue with Donald Novis and Wally Boag, Sluefoot Sue danc-

(Continued on Page 4)

NORAIR TO BACK LITTLE LEAGUE TOURNEY PLAY

Norair will sponsor the 1959 Los Angeles and Bay Cities Little League Baseball tournament August 6, 7 and 8, it has been announced. The tournament will be held at Talon Field, home of the Sportsman Little League, at Hawthorne.

Participating in the tourna-

(Continued on Page 3)

SALARIED WILL RECEIVE MERIT CHECKS JULY 31

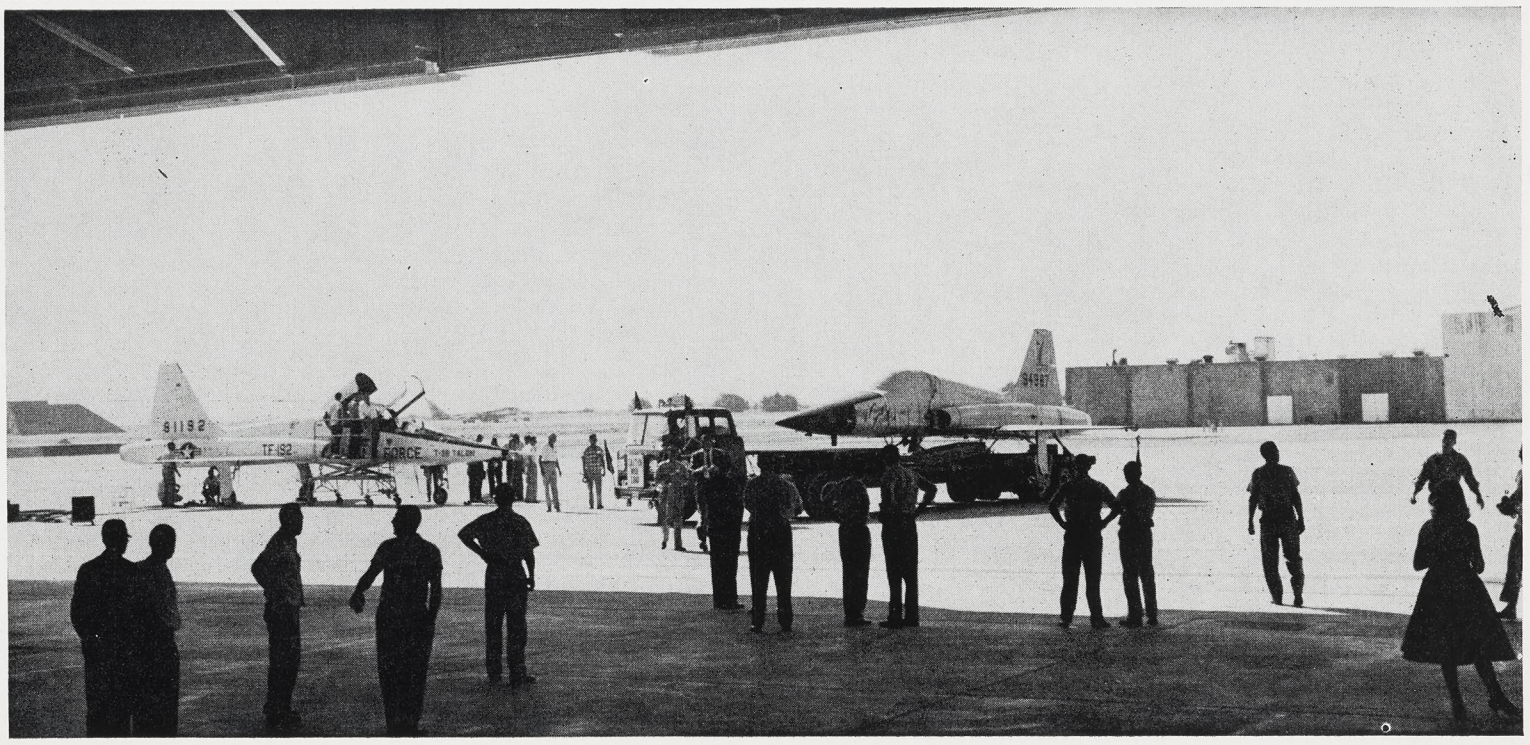
Salaried Norcrafters, 2382 in number, who received increases as a result of the special merit review will receive their first checks reflecting the raise on July 31 for work performed during the week ending July 26.

Also on July 31, the same Norcrafters will receive a retroactive check representing the amount of the increase earned during the five weeks between June 15 and July 20.

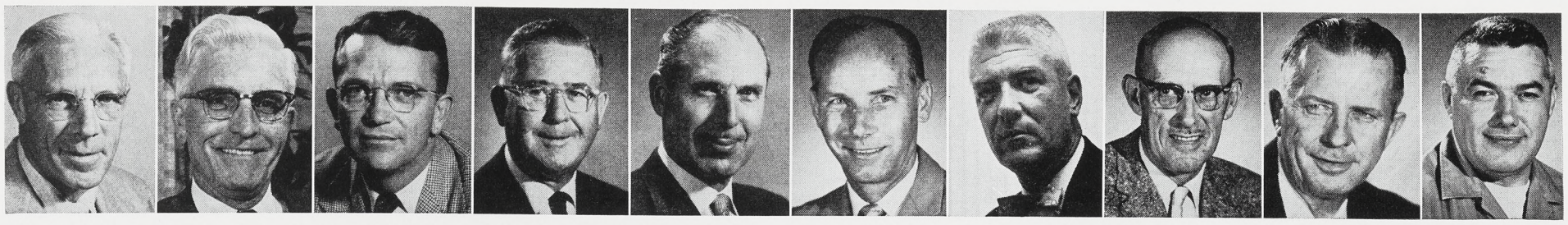
As previously announced (See Norair News, May 20, 1959) hourly folk received a three per cent increase effective May 28.

Freedom Fighter Arrives

AT EDWARDS—N-156F arrives at Edwards Air Force Base to join T-38s in Norair's rapidly advancing test program of the lightweight family. Trip from Hawthorne was routine and uneventful. Link Hoen, Transportation, was in charge. Truck drivers were Harry Johns and Frank Gutierrez.



Twenty-year Norcrafters



Tom Chittenden | Thomas H. Quayle | Richard R. Nolan | Walter T. Gage | Robert S. Catlin | C. Paul Bonham | John J. Pfarr | Herman C. Baker | Roy W. Lindstrom | Melvin N. Brown

NORTHROP–NORAIR

NEWS BRIEFS

SALES POLICY—Norair Vice-president and General Manager Dick Nolan has announced that, "Norair sales emphasis is concentrating on (1) development to the utmost of the potential of business-in-hand, and (2) to increasingly seek outlets for our creative and technological abilities in the many R&D fields now active and upcoming." Commenting further, Mr. Nolan outlined specific business-in-hand programs. "We are first in the industry in the lightweight development. Management intends to pursue a wide market policy for the T-38—N-156F family. VTOL study is underway . . . Subcontract work is also a very important factor in the sales category . . . In the R&D fields, Boundary Layer Control is an accomplished technique and logistics opportunities here are promising. We are exploring NASA and ARPA research and development needs, as well as the programs of many other agencies. In this connection, it is well to recognize that changing trends indicate an ever increasing share of the defense dollar being earmarked for R&D." . . . To sharpen Norair sales effectivity, a series of planning working sessions under the direction of the general manager's office have served to sharply define Norair's R&D, design, and product capability. Sessions were implemented by Jack Mannion, assistant to the general manager, Bob Gates, assistant manager, Customer Relations; and Welko Gasich, director, Weapon System Development . . . Findings and recommendations are to be presented to Mr. Nolan this week. "This will serve as a Management Planning Council operating platform in a closely integrated sales program," Mr. Nolan stated. "The Council will completely review sales progress with all departments at least once each week. The success of our sales efforts will have the highest priority and will utilize our greatest energies, both for expanding business-in-hand and securing additional R&D work."

VIP—Visiting Norair last week was Lt. General Bernard A. Schriever, commander, Air Research and Development Command, and staff. General Schriever was briefed on T-38/N-156F status, Boundary Layer Control projects and the Q-4 drone (Radioplane) . . . Norair presentations were highlighted by Boundary Layer developments . . . Boundary Layer was pointed up as a significant key to economical cargo and freight airlift operations. Automaton concept in manufacturing, logistics facts and the various applicable missions were detailed . . . General Schriever was recently elevated to lieutenant general and to ARDC command from his former position as major general in charge of Air Force Ballistic Missile Division, Headquarters, ARDC, Inglewood, California.

PACE—As a result of requests received for more detailed PACE program information, Norair has now copyrighted PACE and prepared a PACE program installation package, it has been announced by Vice-president and General Manager Dick Nolan. "PACE interest throughout the United States," Mr. Nolan stated, "stems from the fact that it is a novel management tool that has been highly successful in cost improvement programs. It is the only known program that provides management the necessary information to determine what impediments have been placed or allowed to continue in the work-flow pattern, thus preventing a normal effort application to work in process. One of the prime duties of management is to ensure a normal utilization of manpower, machinery and facilities. PACE information removes guesswork in these areas and provides a measurement tool of impeding factors." . . . The PACE program installation package which is now being studied by several large American manufacturers—aircraft, automotive and cosmetics—will under contract, orient and train personnel, and install a PACE program for the interested company. A summary of the five package stages (1) a concept symposium for top management and executives; (2) an indoctrination series for supervisory personnel; (3) conduct a training program in techniques and applications; (4) PACE installation at the company's plant under Norair guidance; (5) appraisal after a reasonable length of time for effectiveness and adequacy . . . Installation of a PACE program for a manufacturer will take a minimum of from four-to-five weeks.

GENERAL BRADLEY—Lieutenant General Mark Bradley, deputy chief of staff for Materiel, Headquarters USAF, visited Norair last week for program status on T-38 and N-156F. General Bradley reviewed procurement plans on Norair airplanes and expressed satisfaction with Company position in relation to schedules and tests. General Bradley discussed Air Force materiel budget policy with Norair officials and explained in detail the close dollar margins that apply to all companies with products slated for operation and inventory.

Management Club Service Pin Night

(Continued from Page 1)

general manager, Norair Division, August 28, 1939.

Walt Gage, treasurer and manager, Credit Union, October 2, 1939.

Bob Catlin, manager, Quality Control, October 2, 1939.

Paul Bonham, senior engineering specialist, November 16, 1939.

John Pfarr, project engineer, Radioplane, November 20, 1939.

Carl Raker, foreman, Electrical, November 20, 1939.

Roy Lindstrom, captain, Protection Service, November 21, 1939.

Melvin Brown, electronics technician, Electrical Maintenance, December 18, 1939.

Adding headline event to headline event, the Management Club Board of Control announces that the newly reinstituted raffle will award two Las Vegas expenses paid weekends for two.

Each Las Vegas prize consists of airline tickets, rooms at the Hacienda, dinner and champagne, and golf reservations. The trips may be used at anytime.

There will be the customary door prize of twenty-five silver dollars.

Another feature is the Mug-of-the-Month award. This is brand new and preliminary reports indicate that it will be presented in a "This is Your Life" fashion.

President Noonan stated that the Mug-of-the-Month will be a symbol of recognition for service, achievement and outstanding performance, and meritorious or praiseworthy accomplishments for the good of the club and the Company.

The meeting will be held at the Cockatoo, August 7. Menu is prime-rib and fish. Tickets go on sale this week.

Added business rounding out the club evening will be a song fest lead by Lieutenant Tom Ames, Protection Service, morning-shift.

Our Talon

(Continued from Page 1)

test were Lew Nelson and Hank Chouteau.

Both the N-156F "Freedom Fighter" and the Talon are making use of ground support equipment, spare parts and maintenance experience common to both types of aircraft now that the fighter has joined the T-38s for flight test at Edwards.

Products of the same design concept, the T-38 and N-156F have identical powerplants and primary airplane systems. Overall, the trainer and fighter have approximately 80 per cent interchangeability of components.

Ability to use personnel and equipment interchangeably in the flight test programs will result in cost advantages which would not be possible in the development of two dissimilar aircraft. Parallel development also provides cost savings in designs, analysis, component and system testing, tooling and production of the N-156F and T-38.

Initial trajectory and stability of pilot ejection seats for the T-38 have proved satisfactory in low-speed and high-speed sled test runs. Separation of the test dummies from the seats also was reported to be satisfactory.

Escape systems for the trainer and the N-156F "Freedom Fighter" are identical. Tests to date, performed at Edwards, were with a T-38 forward fuselage mounted on a rocket-powered sled, and with a Coleman Engineering Company's rocket-powered sled at Hurricane Mesa, Utah.

Cartridge-actuated seats were used for all ejection tests. Final configuration of the escape system will include an ejection rocket designed to assure safe deck-level escape during takeoff and landing.

Five maximum landing tests were completed in one day between 6 and 11 p.m.

The tests were conducted in high desert temperatures and included high-weight landings. The completion of five flights in less than five hours under such conditions, with the associated data collecting operations, is considered extraordinary for high-performance jet aircraft in a test program.

Snark Roars

(Continued from Page 1)

From the countdown to the airstart to the actual firing, everything went off right on schedule," he said.

"A new underground airstart system was used during this test. The new system replaces the MA-1A airstart system formerly used. It worked to perfection, according to Sgt. Endicott.

"The Snark was run to "full military" and the total time elapse of the test was approximately 15 minutes. During the morning, missile maintenance men and technicians worked feverishly over the Snark, double checking everything. Engine turnovers and final last minute adjustment were also made then. The actual test was run in the afternoon.

"Cooperation between the civilian technicians and the military was excellent. Everyone knew exactly what to do and did their job right on schedule. Civilians and military worked as one big team.

"Sgt. Endicott said, "I am very happy about the results after all the work."

"Another test is anticipated sometime this week."

NORCRAFTER'S 6-YEAR OLD IN CHILD ART

Jim Ferguson, Industrial Training, is a very proud dad.

Son Bobby, 6, along with Lakewood schoolmate, Wendy Parsons, had their classroom paintings selected for the third biennial Exhibition of Child Art in New York.

Bobby's and Wendy's paintings were two of 100 pieces selected by judges from 10,000 entries for the exhibition.

Bobby painted "Girl Playing with Hula Hoop".

Their paintings, along with others from the nation's elementary and junior high schools are touring the nation on exhibitions.

Mal Mountain Elected to Charity Fund

Mal Mountain, vice-president and administrator, Nor-AID, has been elected to the board of directors and made vice-president of the newly organized non-profit Hospital Charity Fund, Inc., George Heimrich, president of the organization has announced.

Mr. Heimrich, who is director of the National Council of Churches stated, "We are most happy that Mr. Mountain has accepted officership in the Hospital Charity Fund. His working knowledge of the medical problems of people will be most valuable in our organization.'

"Purpose of the Hospital Charity Fund," Mr. Heimrich stated, "is to receive and disburse funds through approved participating hospital members in order to give free or part-paid hospitalization and medical care to disabled people who cannot afford the full cost of treatment."

The Hospital Charity Fund will actually start operation in January 1960.

Fund raising efforts, meanwhile, are being conducted through funds, foundations and special employer-employee groups.

When the Hospital Charity Fund is in operation, many people who are in medical-financial need will be able to receive needed care through the good offices of the new organization.

Hospital Charity Fund is the only organization of its kind in the United States.

Northrop-Norair News

Vol. 17 No. 21

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PUBLIC RELATIONS
NORAIR DIVISION

CHARLES BARR, Director

CHARLES BRADFORD, Editor

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What's the Answer?

Do you have a question? The Norair News *will welcome questions on any subject of common interest and will get the correct answer from the people who know. All questions will be answered, either through the column in the* News *or by memo or telephone call to the requester when the inquiry lacks sufficient common interest for all Norcrafters.*

Queries are to be directed to the Editor, Norair News, *organization 1320, zone 65. Inquiries may be signed or not, as you wish.*

Question

What is the purpose of the PACE Program?

Answer

The primary purpose of the PACE Program is to enhance the position of the Norair Division in the very competitive market in which we find ourselves today. The more efficient we are as a group the better are our chances to bid successfully on the new business which provides a secure future for us all.

PACE is an objective *quantitative* measure of *group* effectiveness in accomplishing an assigned task. PACE does not, under any circumstances, pinpoint or single out any individual in its reporting procedures. Its purpose is to report those things that hinder Norcrafters in their daily work and through corrective action to improve the effectiveness and productivity of the Division as a whole.

Question

Why was it necessary to close Gate 15, the gate on Broadway adjacent to the Turbodyne Building?

Answer

Gate 15 was closed due to a reduction in personnel on our guard force and the resulting inability to properly staff all of the existing posts within the company. Gate 15 was selected on the basis that there were fewer personnel utilizing this gate than other gates. Also the inconvenience and problems created were less here than at other locations since Gate 10 and 16 are available and are of ready access to the Plant III area.

At the request of a number of personnel in the Plant III area Labor Relations, with Plant Security and Protection, investigated the possibility of opening Gate 15 on a limited schedule to allow personnel to enter at the beginning of the day and to exit in the evening. This has been accomplished and the present schedule for Gate 15 to be open is 6:45 a.m. to 7:15 a.m. and from 3:30 p.m. to 5:00 p.m., Monday through Friday.

Norair and Nortronics Gates Get New Numbers

Hawthorne facility, Norair and Nortronics, gates are now renumbered according to a logical consecutive pattern, it has been announced. The brand new signs are located on both sides of each entrance.

According to John Kearney, Norair parking administrator, the new sequence eliminates the outdated identifications in which, for example, Gate 6A neighbors Gate 21A.

All external gates—entrances into the facility through the perimeter fence—are incorporated in the new system, although not all numbers will be changed. From Gate 1 at the northwest corner of Norair property, the numbers will continue counterclockwise —south on Prairie to Broadway, east to Crenshaw, north to the airfield, and west to the starting point. Nortronics gate numbers will start with 40 and continue counterclockwise around Plant Two.

Internal gates—entrances into fenced compounds within the perimeter fence — are reidentified alphabetically, starting at Prairie and continuing east.

Mr. Kearney noted that any gates added to those listed below will be identified with the letter A suffixed to the number of the gate located at its immediate right.

NRC GUN CLUB HOLDS REGULAR TROPHY SHOOT

The Gun Club semi-annual trophy shoot was conducted at the Torrance police range last week. Members in the winning column as reported by Commissioner Bob Raines were:

Pistol shoot — Dick Barger; second place, Scott Budge.

Small bore shoot, open sights —Don Berry, Jr.; second place, Bruce Berry.

Big bore shoot, open sights— Buck Hayes; second place, Scott Budge.

First place winners received handsome NRC trophies. Second place shooters received cups.

ASTRONOMERS IN "REAL" SATURN SPACE JOURNEY

Are you tired of waiting for commercial transport to Saturn? If so, you should have joined the Astronomy Club, says Commissioner Jim Stowe.

The club met on Saturday, July 25, at Griffith Observatory and Planitarium and took a Chestly Bonistal trip to mighty Saturn, a giant in our solar system. The artistry of the presentation created a space travel illusion that was practically reality.

The club took a close look at Titan, the only moon of 31 in our solar system that has an atmosphere.

The "trip" got under way at 7:45 p.m.

Admission was 60 cents for adults, 30 cents for children.

There will be more trips, more stargazing, more study of the universe, says Jim Stowe. Call Personnel Activities for details on the Astronomy Club participation.

LET'S TALK VACATION

What are Norair vacation benefits? How many days do our people get? What are the holidays? How long must one work to get 120 hours?

The News editor decided this was as good a time as any to talk about the vacation plan. Dave Stadler, chief, Personnel, gave the answers.

All salaried Norcrafters with from one to 12 years of continuous service get 96 hours regular vacation. All hourly paid Norcrafters with from one to 12 years of continuous service get 96 hours paid vacation.

With 12 years of service and up, all salaried and hourly Norcrafters get 120 hours paid vacation each year. Also, hourly and nonexempt salaried Norcrafters get an additional 16 hours sick leave.

In case of layoff, vacation time coming is prorated and paid up to the date of layoff. Upon return from layoff, the vacation anniversary is dated from the date of return. Hourly Norcrafters automatically get a full vacation check the first payday following their vacation anniversary date. Salaried Norcrafters don't get a vacation check as such.

During the first year of service —when you first come to work at Norair—hourly people must earn 26 paychecks to get pro rata vacation checks in case of layoff. Salaried Norcrafters must have completed one year of employment before they are entitled to pro rata vacation checks in case of layoff. Exception is when Norcrafters terminate for military service and produce proof of military service within 60 days.

If you retire under normal circumstances, that is retire at retirement age, or with sanction of Retirement Board, vacation due is prorated and paid.

It is emphasized that Northrop management conducts continuous research to improve the Company vacation policy to make sure that our vacation benefits are comparable to those in the airframe and missile industry.

If a holiday occurs during an hourly Norcrafters' vacation, he automatically recives a day's pay for that holiday with his vacation check. Salaried Norcrafters receive an extra day of vacation.

Part-time Norcrafters regularly scheduled to work 20 hours a week but less than 40 hours a week, are granted vacation benefits only after completion of an equivalent of one year fulltime continuous service.

Absences up to 30 working days do not affect or change vacation anniversary dates.

Absences in excess of 30 days will postpone your vacation anniversary date by the number of days absent in excess of 30 days.

The yearend holiday with pay is granted to all Norcrafters actively on the payroll and not on leave of absence as of December 24.

Each hourly Norcrafter receives 40 hours straight-time pay at his effective rate and each salaried Norcrafter receives his regular weekly paycheck at his regular rate throughout the yearend holiday period.

We have five holidays, Memorial Day, Fourth of July, Labor Day, Thanksgiving, and a "floating" holiday.

Management generally assigns the "floating" holiday to be effective during the Christmas holiday. However, if the timing is more advantageous to our personnel, management could assign the holiday to a Labor Day weekend or a Fourth of July weekend.

Vacation schedules for the various organizational segments are usually worked out in the spring. Norcrafters are asked to list their first and second choice of dates. In case of conflicts, seniority prevails.

Recapitulation shows that for a one year Norcrafter, basic vacation benefits are 40 hours for regular holidays, 40 hours at Christmas time plus 96 hours vacation for a total of 176 hours each year.

The 12 year man gets 40 hours regular holiday, 40 hours at Christmas time, 120 hours regular vacation plus the 16 hours for hourly and nonexempt salary personnel for a total of 216 hours a year. This figures out to a total of 27 paid working days off a year.

ENCHANTED ISLES—Betty Nelson, Engineering, with husband Dean (Nortronics), has reservations for Hawaii. They will go on the Lurline, return by PanAm. Betty, a 9-year Norcrafter, gets 96 hours. "We plan ahead," she said. "We have a special savings account for vacations." They leave for the islands on October 14, will help celebrate 50th state observances. She thinks Norair's vacation benefits are the "most," loves that Christmas holiday!

NRC Travel Club Plans For Hawaii

Travel Club met Monday, July 27, at the NRC Clubhouse for additional discussion for their May 14, 1960, Hawaiian Holiday trip.

Details forthcoming indicated chartered air transportation, fourteen days from here to there and back, hotel accommodations at Kaiser's new Hawaiian Village and excursions and events to make this something to be remembered.

The cost will be $348.

A list of tours and events are now available at Personnel Activities. Some of the features outlined include the Mount Tantalu, Drive, luncheon at the Waioli Tearoom, circle island tour, night club tour, native Hawaiian luau, Pearl Harbor cruise, and a pineapple plant tour not to mention escort services, radio broadcasts.

Reservations require a $50 deposit.

It is suggested individual budgets can be solved by a $10 weekly deposit with the Credit Union.

Sponsorship

(Continued from Page 1)

ment will be five all-star teams, each representing one of the districts in Section V of the Southern California Division of Little League Baseball. The winning team will represent Section V in the divisional tournament at Santa Ana on August 13, 14 and 15.

Section V is composed of teams from Los Angeles, West Los Angeles, Santa Monica, Culver City, Playa Del Rey, Venice, Hermosa Beach, Redondo Beach, Westchester, El Segundo, Manhattan Beach, Lawndale, Inglewood, Lennox, Gardena, Hawthorne, Compton, and Downey.

Climaxing the tournament Saturday evening, August 8, the Little Leaguers will be the guests of Norair at a banquet at the company's recreation clubhouse in Hawthorne. At this time a Norair donated trophy will be awarded to the winning team with individual trophies going to each member of the two top teams.

Talon Field, where the tournament will be held, is located on a Northrop-owned 12-acre tract near Van Ness Avenue and 120th Street in Hawthorne. The 12 acres is leased rent-free to five Little Leagues in the Hawthorne area providing more than 1000 boys with the opportunity to play Little League baseball.

Bob Luxton, Maintenance Norcrafter and NRC representative who has been extremely active and devoted to Little League affairs, will play a prominent part in the tourney.

Paul D. Rizer, Inglewood resident and also a long time friend of Little League Baseball, is tournament director.

BBSF Classified Ads

Items advertised in "For Sale" and "For Sale or Trade" categories are limited to a maximum of $50. Price must be stated.

Ads for agencies, commercial enterprises and private businesses are not accepted.

Deadline is noon Monday, nine days before publication.

FOR SALE

SEWING MACHINE, electric, portable-type w/attachments, $45. PL 3-7484. A

DESK, mahogany, 6-drawer, $49.50. DA 9-1742. A

BED, Beautyrest mattress, double-size, box spring, w/G.E. electric blanket, $45. EX 8-4032. A

KITTENS, Siamese, $15. FR 2-1355. A

CLOTHES POLES, pr., $7.50. OS 6-6074.

LAPIDARY EQUIPMENT, junior-type w/ grinder, polisher, cutting saw, $25. DA 6-8747. A

AIR CONDITIONER, car-type, water cooled, 6V, cost $48, $22. TE 3-9277. A

TIRES, 4, 6.00x16, $5. FURNITURE, chair, green, club-type, $35. DA 4-6748. A

STOVE, Gaffers & Sattler's, 4-burner, $37. FR 5-1186. A

REFRIGERATOR, Servel, perfect condition, $50. OS 6-5170. A

IRONER, mangle-type, $10. Box 2101. A

CAR HORNS, 6V, $6. DA 7-9084. A

HEATER, Fan-Glo electric, $13. FR 6-2536.

REFRIGERATOR, 9 cu ft, Coldspot, $25. DA 4-4750. A

DINETTE SET, chrome, grey top, w/4 chairs, red & grey, $30. DA 3-4628. A

BABY FURNITURE, crib, w/mattress, large-size, blond, excellent condition, $20. Box 2102. A

GARAGE door opener kit, $40. GR 2-2031. A

BIRD CAGE, black & gold, cost $15, w/ parakeet, green, $7.50. DA 5-1324. A

ROPE, nylon 7/16" dia., 100' lengths or longer, 10¢ per ft. OR 2-7624. A

DRAFTING MACHINE, Albert Nestler, German-made, $25. OR 2-7624. A

STOVE, O'Keefe & Merrit, $29. EX 7-0403. A

COUCH, Simmons, convertible-type, excellent condition, $45. GE 4-2717. A

LUGGAGE RACK, cartop-type, adjustable, like new, $10. PL 5-0677. A

MOTOR, washing machine-type, $5. RI 7-7937. A

SHUTTERS, outdoor-type, pr., 18"x56", $4. GR 7-1539. A

HITCHES, trailer-type. 2, $7. FA 8-1944.

BOAT, Hydro-Plane, 9', $50. OR 1-1660.

BICYCLE, boy's, 26", new paint, excellent condition, $20. FA 8-3306. A

KITTENS. Siamese, seal point w/papers, 10-wk.-old, $20. OS 5-1842. A

GAS RANGE. 3 yr. old, excellent condition. $50. Box 2103. A

REFRIGERATOR, 7.2 cu. ft., good condition, $25. FR 8-1026. A

VACUUM CLEANER, Hoover Constellation 86, w/attachments, tank-type, $35. OR 8-5958. A

GOLF CLUBS. 1950 Spaulding Top-Flite, Tournament stainless steel irons, 2 thru 9. $20. PL 5-7310. A

CAMERA EQUIPMENT, REVERE, 8-mm movie-type, w/special lens & leather carrying case, $40. EX 8-4032. A

RANGE, gas, 40" $35. DA 9-7338. A

WANTED TO BUY

LAUNDRY TUB, 18x24x12" deep. PL 6-8095. B

STOVE, white, gas, Wilbilt, $40. OR 1-8819. B

PIANO, grand or baby grand. JA 7-5805. B

FOR TRADE

DIAMOND RING. man's. yellow-gold setting, trade for gun or gun equipment. FR 4-4140. C

CABIN CRUISER, 1956 Owens, 22' inboard, low engine hours, top condition, trade for real estate. FR 6-3981. C

FREE (to be given away)

PUPS, Boxer, 7-wk-old, OR 8-5934. D

DOG, male, 1-yr old. OS 6-3319. D

KITTEN. long-haired, white w/grey. EA 2-5262. D

FOR SALE OR TRADE

PADDLE BOARD, 10'. plywood, $25 or trade as part payment on Balsa surfboard. FR 4-6076. M

TIRE. Goodrich, 8.00x14, nylon, w/w, tubeless, $15 or trade for 300-watt 35-mm slide projector. TA 8-2857. M

BOATS BUILDING

NRC Sea Scout Commissioners Sid Cohan and George Larsen, have issued a call for boys interested in sailing and the sea.

Sid and George have a program going in which the boys are building their own 13-foot sloop-rigged all glass sailboats at wholesale cost.

AID $$$ REPORT

	Year to end 31 July 1956	1957	1958	11 Mo. 1959
Total Contributions by NAI Personnel to AID and Nor-AID	$229,778.73	$262,922.79	$300,735.11	$236,662.32
Total Received by Nor-AID	39,602.18	67,755.47	60,233.39	87,257.92
Number of Nor-AID Cases	123	234	300	208
Amount Granted to Personnel	20,800.37	41,476.73	64,006.12	43,523.45
Balance of Money on Hand at 7-1-59 (Bank Balance)	18,791.98	44,958.28	41,174.73	50,000.00 (7-1-59)
Average Grant	169.10	177.25	213.35	209.24

Nor-AID is Norcrafters' Own For Those in Dire Need

"It is easy to see when you look with your heart." This is the slogan that keynotes the fifth year of Norair participation in the AID and Nor-Aid program starting on August 1, it has been announced.

During the next week, the yearly review of AID and Nor-AID pledges will be made and Norcrafters will be able to redesignate their contributions or join up with AID and Nor-AID, if not already members.

Department clerks have pledge cards and designation forms.

It is pointed out that pledge cards indicating undesignated contributions allot the contributions equitably among the ten major causes and Nor-Aid. The Northrop formula insures distribution of these funds among the ten charitable agencies in the towns and communities in which Norcrafters reside.

Contributions on the other hand may be "designated" to specific charities of the contributor's choice. Designated contributions are on a yearly basis and require a new card by the contributors each year.

Designated contributions, of course, may be made to Nor-AID in-plant charity program.

TOUGH PREDICAMENT for one so young, but thanks to the tender ministrations of personnel at Los Angeles Children's Hospital, this youngster will one day be able to run and play just like the other kids. Children's Hospital is one of 167 AID-supported agencies in Los Angeles.

RIDES WANTED

7:00 a.m. — 3:45 p.m.

EL SEGUNDO & ATLANTIC, Compton. Virginia Slaughter, ext. 2441, NE 1-0348. 2

BERYLE & HIGHWAY 101, Redondo Beach. RALPH J. STEELE, ext. 545, FR 4-5587. 2

CRENSHAW & CENTURY BLVDS., Inglewood. B. McDONNELL, ext. 1359, PL 6-9619. 2

7:30 a.m. — 4:15 p.m.

CENTINELA & LA TIJERA, Los Angeles. Anna Wood. ext. 2228, OR 3-0884. 3

COMPTON BLVD. & ATLANTIC, Paramount. EVELYN BRUNSON, ext. 2228, ME 3-7726. 3

EUCLID & LA PALMA, Fullerton. W. R. KEEN. ext. 1905, LA 5-2254. 3

8:00 a.m. — 4:45 p.m.

MANCHESTER & CENTURY, Inglewood. H. M. Callaway, ext. 1436, PL 5-4580. 5

RIDES OFFERED

7:00 a.m. — 3:45 p.m.

KATELLA & EUCLID, Anaheim. J. K. Aubry. ext. 2369. 12

RIDES OFFERED

7:30 a.m. — 4:15 p.m.

EUCLID & LA PALMA, Fullerton. W. R. KEEN, ext. 1905. LA 5-2254. 13

BROADWAY & ORANGE, Long Beach. Ben West, ext. 556. GE 4-6100. 13

8:00 a.m. — 4:45 p.m.

PARAMOUNT BLVD. & DE LAMO, Long Beach. W. H. COVERT ,ext. 2281, GA 3-1363. 15

NRC CALLS FOR BOWLING TYPES

Norcrafter bowlers are advised to form teams now as NRC day and night shift winter leagues are forming.

Entry forms regarding time, place, type of league and other details are available at Personnel Activities, Plant One; Personnel, Nortronics in the Broadway Plant and Industrial Relations at Crenshaw and Mariposa.

Commissioners Dave Carney, days, Corinne Davis (women), days, and Jim Scalla, nights, advise openings are available for team entries on all shifts.

Funstival—

(Continued from Page 1)

ing girls and the Golden Horseshoe orchestra.

At 3:15 p.m., will come the Disneyland Indians.

At 3:30 p.m., NRC mixed chorus "Symphonaires".

At 3:45 p.m., Anaheim Norteens novelty will be presented.

At 4:00 p.m., NRC Square Dance club "Square Jets".

At 4:15 p.m., the Disneyland barber shop quartet gets going.

The softball tourney will be a three-way affair. Radioplane and Nortronics will play each other, then the winner will play Norair. Norair was winner last year.

There will be free refreshments, coffee, lemonade and orangeade all day but this is really a picnic and Norcrafters are asked to pack a basket lunch. Food will also be sold at Holidayland, such as hotdogs and hamburgers.

Although the picnic does not include free rides in Disneyland Disneyland ticket books—on sale at discount rates—contain prizes.

Parking will be 25 cents and adequate space will be reserved near the grounds. An I.D. card is required for admission to Holidayland.

NRC CAMP-OUT TRIP SLATED FOR DARK CANYON SATURDAY, SUNDAY

Let's go camping. If you read the vacation story on page two, you are ready.

NRC Commissioner Fred Brant, announces that there will be a camping outing at Dark Canyon on August 1 and 2.

Dark Canyon camp is located in the Idyllwild area. It can be reached by following the San Bernardino Freeway with turn-off at Banning, or the Santa Ana Canyon, Corona, Lake Mathews, Perris and Hemet route may be taken.

Commissioner Brant says there will be a pot luck dinner on Saturday evening. Bring your own table tools and whatever food you think you should add to the "pot."

There will be fishing, hiking and just lazing around breathing smog-free air.

Everybody will enjoy it.

A camera is a good idea.

NRC Good Time Table for August

For enrollment or information on activities listed below, call or contact Personnel Activities, Plant One, extension 2784. All clubs meet at the NRC Clubhouse unless otherwise noted.

ARCHERY, Wes Williams
Meet Wednesdays, 7:30 p.m.—movies 1st Wednesdays. Archery classes now in session.

ART CLUB, Forrest Ayrest
Meet in Annex Thursdays, 7 p.m. Models furnished by NRC.

ASTRONOMY
Meet 2nd & 4th Mondays, 7:30 p.m. Sixth lecture in series June 22.

BIBLE STUDY, Warren LaSelle
Plant I—Daily, 11:30-12:15, Tool Design Bldg.; 11-11:45, 5566 Conf. Room.
Plant II—Mondays & Thursdays, 12-12:45, Conf. Room 2.
Eng. Center—Daily, 12-12:45, Reliability Conf. Room.

BOAT CLUB, Ken Payne
Meet 1st Wednesdays, 7:30 p.m.

BOWLING (days), Dave Carney

BOWLING (nights), Jim Scalla
Summer leagues now rolling.

BOY SCOUTS, Sid Cohan
Sea Scouts, intermediates, Cub Scouts. All Norcrafter boys welcome.

CAMERA CLUB (days), Lauren Ray
Meet 1st, 3rd & last Wednesdays, 7:30 p.m.

CAMERA CLUB (nights), John Newman
Meet 1st & 3rd Saturdays, 8 p.m.

CAMPING CLUB, Fred Brant
Meet 1st Mondays, 7:30 p.m.

CHESS CLUB, Bill Henderson

FISHING, Art Kraft
Chartered boat August 15.

GEM & MINERAL CLUB (days), Ray Cole
Meet 2nd Wednesdays, 8 p.m. Mineralogy classes Thursdays, 7-9 p.m.

GEM & MINERAL CLUB (nights), Doyle Shook
Meet 1st Wednesdays, 1:00 p.m.

GOLF, Bill Putnam
NRC Open Los Serranos July 26 & August 2.

GUN CLUB, Robert Raines
Meet 3rd Wednesdays, 7:30 p.m.

MIXED CHORUS, Verne White
Meet Tuesdays, 7:30 p.m.

MODEL RAILROAD, Jack Wilson
Meet in Annex Thursdays, 7-10 p.m. Visitors welcome. Need electricians, carpenters & scenic artists to help with new layout.

ORGAN CLUB, Gail Skinner

PHILATELIC CLUB, Eugene Richardson
Meet 2nd & 4th Mondays, 7 p.m.

RADIO CLUB
Meet last Thursdays, 7:30 p.m. Radio code class meets Wednesdays, 7:30 p.m. NRC's station is W6VPZ.

RIDING CLUB, Tex Stately

SKEET CLUB, Walt Graves
Meet alternate Saturdays Aug. 8 & 22 at Rancho Angellis Range, Main & Broadway, 10 a.m.

SKINDIVING, Robert Koerner
Meet 3rd Mondays, 7:30 p.m.

SOFTBALL (days), Monte Halberg
League play Mondays & Wednesdays, Rosecrans Park, 7:30 p.m.; Thursdays, Lennox Park, 5:45 p.m.

SOFTBALL (nights), Bob Moncrief
League play Wednesdays, Rosecrans Park. 10:30 a.m.

SPORTS CAR CLUB, Bill Eichelkraut
Meet 2nd Thursdays, 7:30 p.m.

SQUARE DANCING, George Sanborn
Fun Level at Henry Clay Jr. Hi, 124th and Western, Fridays, 8-11 p.m.

SURF FISHING, John Pawlicki
Meet 1st Tuesdays, 7:30 p.m.

TENNIS, Raul Arredondo
Meet 1st Mondays, 7:30 p.m. Practice & instruction at El Camino Jr. College Saturdays, 10 a.m.

TOASTMASTERS 212 (days), John Walker
Meet at Cockatoo Inn Thursdays, 6:30 p.m.

TOASTMASTERS 1398 (nights), Jay Rayner
Meet at Western Ave. Country Club Thursday 12:15 p.m.

TOASTMASTERS, 2583 (days), Walt Brown
Meet at Paul's Club Alondra Mondays, 6:15 p.m.

TRAVEL CLUB, Howard Cornelius
Meet 4th Mondays, 7:30 p.m. Hawaiian trip May 15-28, 1960.

FOR THE LADIES

BOWLING, Corinne Davis
Summer leagues now rolling.

GIRL SCOUTS, Dallas Vasquez
Mariners, Intermediates, Brownies. All Norcrafter girls welcome.

KNITTING, Nina Shannon
Meet Thursdays, 7:30 p.m. — instructions each meeting.

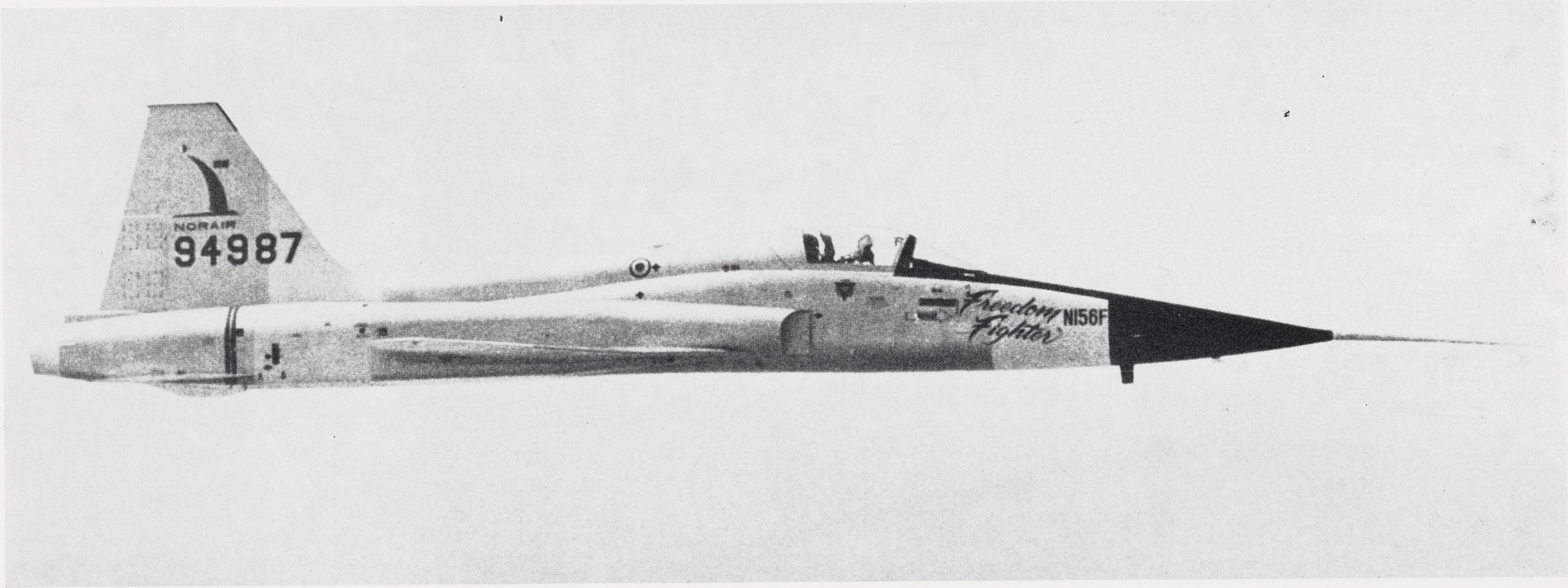
SOFTBALL, Becky Traverse
League play Tuesdays, Harvard Playground.

TOASTMISTRESS, Marge Gates
Meet in NRC Clubhouse Board Room 1st & 3rd Thursdays, 7 p.m.

N-156F Freedom Fighter

Northrop-Norair News

Issued biweekly by Norair Division of Northrop Corporation • Wednesday, August 12, 1959



N-156F FIRST FLIGHT—High above the Mojave desert, the Freedom Fighter, Lew Nelson, pilot, tries her wings for the first time. The airplane exceeded Mach 1, performed like a well-educated lady throughout the entire 50-minute test. Flying escort were Air Force Captains Swart Nelson, T-33; and Norvin "Bud" Evans, jr., F-100. Flight Photographers were Norair's Ron McGaffin and Air Force M/Sgt. George Weaklim.

SONIC BOOM SIGNALS FIRST FLIGHT

Test Crews Heap Praise On New Ship

Comments on the N-156F:

Frank Harrison, crew chief of the first T-38 and who has been on the project since the "first rivet": "We were pulling for the boys on the N-156F. They worked around the clock, night and day, and it's been hot at Edwards. Everybody gained a lot of know-how on the two T-38s. This made things better for Bill Rhodes' team. But they worked hard. That good flight makes us all feel fine."

Louie Weltz, Edwards flight foreman who has been on desert tests since 1941: "This flight was very impressive. You don't very often see a first airplane go so smoothly . . . First flights are getting routine with the other two just finished. The boys have the knowledge and the support of

(Continued on Page 2)

Success Story

POST FLIGHT BRIEFING—Lew Nelson after 50 minutes aloft and Mach 1-plus speeds in the Freedom Fighter gives his report. From left, C. J. Halverstadt, Larry Wesken, R. D. Archer, J. A. Guerrieri, Hank Chouteau (in back of Lew), L. J. Mitts (standing), Don Graham (seated), Ray Gardner (nearly hidden), and Claire Davis. Lew's comments on N-156F performance brought smiles to all.

Lew Nelson Pilots N-156F In 50-minute Edwards Test

A sonic boom thumped the desert from an invisible airplane in the high mare's-tail sky.

The N-156F had announced herself as the newest fighting machine in America's long and honored list of freedom weapons.

Small but potent, the Freedom Fighter took charge of her escorts, a T-Bird and an F-100 already airborne, from the very start.

Lew Nelson, pilot, lifted her off the Edwards runway into the hot morning sky at 9:30 a.m. on Thursday, July 30. The F-100, Captain Norvin C. Evans, jr., N-156F Project pilot, and Air Force photographer, M/Sgt. George Weaklim, came in swiftly from 4 o'clock. The T-Bird, Captain Swart Nelson, T-38 Project test pilot, and Ronnie McGaffin, Norair photographer, "drove" down the runway with a screech and only scant 30 feet above the onlookers. The three airplanes patterned with the N-156F in the lead and made

(Continued on Page 2)

Jones Views Progress in MC Address

Thomas V. Jones, Northrop Corporation president, addressed members of the Northrop Management Club Friday evening in his initial appearance before the group since assuming top Company office last May.

Mr. Jones spoke before a record crowd of supervision and management and officiated in the

(Continued on Page 3)

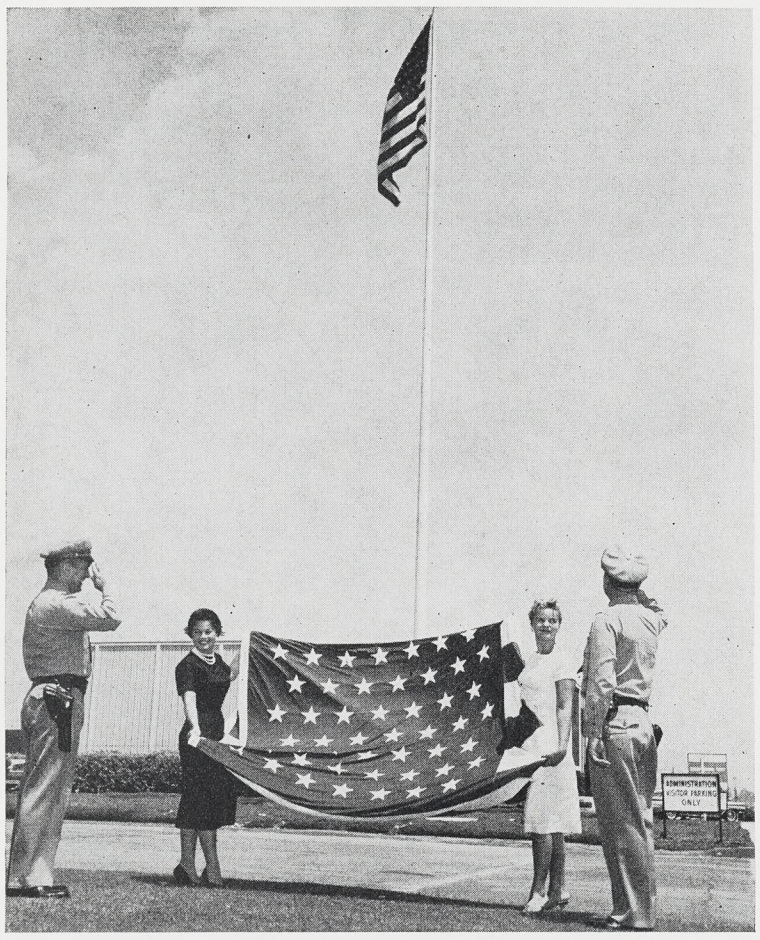
ENGINE STARTS AT DAWN—N-156F crew starts J-85 General Electric engines just after dawn on morning of first flight. Fine weather prevailed all day but at 6 p.m., long after the test was over, rain and winds came to the desert. But as soon as first flight was in, crews were at the airplane getting ready for the next test. Captain Bud Evans flew third time up to set AF test record.

TEAM — Norair's Ronnie McGaffin, photographer, and Captain Nelson flew N-156F escort in T-Bird, recorded event for all time on film, observed the new fighter from all angles.

GREAT DAY—Months of precision care pay off for N-156F Edwards crew chiefs, Charlie Herrera, nights, and Bill Rhodes, days. These men and their crews have been constantly with the Freedom Fighter since first assemblies in Advanced Production area. They and their families followed the airplane to Edwards, burned the midnight oil in around-clock schedule to beat flight date.

DESERT CREW ROSTER

A Star for Alaska



NORCRAFTER TRIBUTE—Old Glory of 48 stars gives way with proud dignity to new Old Glory of 49 stars, Alaska being added. Two of Norair's stalwart finest and two very lovely girls from Customer Relations perform the quiet ceremony. From left are Guard R. F. Dohner, brunette Marilyn Nuttmann, blonde Phyllis Brown, and Lieutenant G. J. Arneson. Forty-nine star flag will have short reign. Hawaii's star will be added when that territory's statehood, now approved by vote, is officially consummated.

Comments

(Continued from Page 1)

the T-38 teams to back them up. The crew, everybody, worked hard and was careful. And the thing that I am proud of is that all three of those airplanes are ready to fly right now. You gas them up and they can go."

Bill Rhodes, N-156F crew chief, days, who first went to Edwards on the X-4: "This N-156F—it's the best in the book. It's like having gained a new friend. The T-38 boys helped us a lot. They know their stuff. Their experience backed us up. All we had to do was ask. They helped. This kept us always ahead, and my boys knew their jobs—wonderful feeling. We're getting her ready for another flight right away. She's just an ideal airplane."

Ron McGaffin, Norair photographer: "Beautiful. Looks like a jewel. That Freedom Fighter stands out and you can't forget what she stands for."

Ferggie Ferguson, in charge of Flight Test Engineering: "A good feeling to see it fly. Lots of manhours there. All three of our first flights have been perfect. This record speaks well of the entire Company. It's hard to beat this. You can't beat it."

Bill Rowles, 12 years total with Norair, instrumentation engineer, first T-38: "One of the cleanest. Very stable. No malfunctions in the ship or in the test equipment . . . And we are the first to see malfunctions — sometimes even the pilot doesn't know. This flight was perfect. We congratulate the N-156F team. Getting her black boxed for another flight."

Gene Young, N-156F instrumentation leadman, day shift: "This we have been looking forward to and the flight couldn't have been better. It was perfect in every way. Now our work really starts. Although this aircraft is similar to the T-38s, it has a different job. It is a fighter and our test requirements are different. We're on our way."

Johnny Vilareno, N-156F mechanic, day shift: "This airplane is the future here and now. We haven't had the usual flight problems. They were presolved by Engineering and Manufacturing. I've been in flight assignments at Norair for a long time and this airplane is the slickest looking job of them all. Bar none!"

Charley Herrera, N-156F crew chief, nights, and an 18-year Norcrafter: "The flight went better than we had any right to expect and it actually exceeded our expectations. I am doggoned proud! Right after the flight it was ready to go again."

Captain Swart Nelson, T-38 project pilot: "These airplanes are very promising . . . The work of the Norair crews has been outstanding in both maintenance and instrumentation. They know the aircraft."

Captain Norvin "Bud" Evans, jr., N-156F project pilot who flew the airplane on the third flight, August 1: "For an Air Force pilot to fly a new airplane the third time up sets a new test flight record. Handling characteristics are outstanding. Visibility is outstanding."

Al Kalunian, Flight Test engineer, and 10-year Norcrafter: "Very happy. Very successful. We got data on the first flight—low speed and high speed . . . Everybody really put out . . . It was a good effort and there was cooperation all the way —within our Edwards group, from the plant, all areas of the project. I was in the mobile unit at the runway during the test. We were reading Lew's radio throughout the entire flight." Al is concentrating on the N-156F. but is associated with all three airplanes.

Crew members of the three airplanes at Edwards:

The first T-38, day shift: F. M. Harrison, crew chief; Louie Baker, electrical; O. E. Martin, mechanic; C. G. Soihl, mechanic; W. D. Martin, mechanic; G. J. Fels, mechanic. Night shift: E. W. Kane, crew chief; Reuben Oian, electrical; R. J. Kaminski, mechanic; Ernest Green, mechanic; R. A. Bevans, mechanic.

The second T-38, day shift: D. D. Wilson, crew chief; R. D. Wyatt, electrical; Stanley Garowski, mechanic; H. V. Lasley, mechanic; F. R. Stalnaker, mechanic; F. J. Mason, mechanic. Night shift: N. O. Wilson, crew chief; A. R. Mansfield, electrical; S. R. Zeller, mechanic; H. G. Elkins, mechanic.

The N-156F, day shift: W. E. Rhodes, crew chief; T. R. Charles, electrical; John Vilareno, mechanic; A. P. Pino, mechanic; H. P. Owens, mechanic. Night shift: C. M. Herrera, crew chief; E. A. Megas, electrical; F. M. Johnson, mechanic; W. L. Larson, mechanic; E. F. Spaniol, mechanic.

Instrumentation technicians for the three aircraft are as follows.

The first T-38, day shift: Vic Peck, leadman; Bill Rowles, Hal Berry, Dave Tapper. Night shift: E. V. Jackson, leadman; Ray Darnold, Ed Gerdovich.

The second T-38 day shift: Don Bragg, leadman; Jim Mahan, Bob Peoples. Night shift: Clay Gerstenburger, Fred Brodish.

The N-156F, day shift: Gene Young, leadman; Mardy Sharp, Cliff Wade, Jack Burgess. Night shift: Carl Ramey, leadman; Tom McAllister, John Miller.

GE MEN SEE N-156F FLIGHT

General Electric representatives at Edwards to witness Freedom Fighter first flight were Gerhard Neumann, manager, Small Aircraft Engine Department; and Edwards Customer Flight Test men, Supervisor Melville Lederman and Eddie Spear.

The N-156F is powered by twin General Electric J-85 turbojet engines. The J-85's exceptionally high thrust-to-weight ratio is significant factor in Northrop Norair's low cost, lightweight, sonic speed breakthrough for the T-38—N-156F family of airplanes.

JOHNNIE HINES TEACHES SWING

Bill Putnam, commissioner NRC Golf Club, announces that the Johnnie Hines golf lessons are now under way at the Inglewood Driving Range, Manchester between Crenshaw and Prairie.

Lessons started August 4. It is probably not too late to join. There are two lessons a week, Tuesdays and Wednesdays, at 8:30 p.m. Total cost is $12.00 per person for six lessons.

What's the Answer?

Do you have a question? The Norair News *will welcome questions on any subject of common interest and will get the correct answer from the people who know. All questions will be answered, either through the column in the* News *or by memo or telephone call to the requester when the inquiry lacks sufficient common interest for all Norcrafters.*

Queries are to be directed to the Editor, Norair News, *organization 1320, zone 65. Inquiries may be signed or not, as you wish.*

Question

Why does the Northrop Corporation provide greater retirement benefits for employees hired at an older age than those hired at a younger age?

For example, all employees hired at ages 18 thru 24 require over 20 years of continuous service before earning a vested interest in the retirement fund. On the other hand, if hired in at age 35 or older, only 10 years of service is required for a vested interest.

Benefits payable on retirement are credited annually. Of two persons compensated at the same rate of pay, the younger would retire with larger benefits than one who was hired at an older age because of the greater period of time over which benefits were accrued.

Answer

The Plan was established primarily for the purpose of providing benefits on retirement. Vesting provisions, however, permit persons to receive benefits at age 65 who terminate at or after age 45 with 10 or more years of service. Again the younger person would receive the larger income because of the longer period over which benefits would be credited.

First Flight

(Continued from Page 1)

slow turn to the left. The N-156F retracted her gear. They climbed and vanished.

Some of the boys with binoculars hung onto them for a time. Half an hour later, they reappeared headed southwest, came around and made a pass, came around again and landed. Time aloft on the first flight—50 minutes.

"I touched down where the photographers were," said Lew. "That's what they wanted me to do. The General Electric J-85 engines held their RPM, so climb was easy. I pushed her beyond Mach 1. Real positive control. Transition to supersonic, as with the T-38s, is so smooth you have to watch the instruments to know when it happens."

The desert crews were happy. Long hours, practically around the clock, for the days preceding the flight had paid off.

Louie Weltz, flight line foreman, and "Ferggie" Ferguson, in charge of Flight Test Engineering, found themselves headlong into the third program at Edwards, the two T-38s constituting the other two. Louie to have the airplanes ready for flight, and Ferggie, to gather the vast quantity of data necessary for evaluation of performance.

Salient facts about the N-156F.

DICK NOLAN MESSAGE

Norair Vice-president and General Manager Dick Nolan was in Presque Isle at the Snark base at the time of the N-156F first flight.

He dispatched the following congratulatory message.

ALL NORAIR PERSONNEL CAN TAKE PRIDE IN THE FACT THAT IN THE T-38 AND N-156F WE NOW HAVE TWO OF AMERICA'S NEWEST AND FINEST AIRCRAFT IN THE AIR.

ALL ASSOCIATED WITH THIS EFFORT HAVE MY WARMEST CONGRATULATIONS.

R. R. NOLAN

TRUMPIS VOTED TO MANAGEMENT SOCIETY GROUP

Bob Trumpis, representative to Boeing Aircraft Company, has been elected to office in the Society for Advancement of Management, Seattle chapter, it has been announced.

Officer list of the chapter, which includes representation from top members of Boeing management:

Daniel J. Sullivan, president, Boeing.

Professor Edward G. Brown, vice-president & deputy president, University of Washington.

James W. Coulter, secretary, Boeing.

Professor Richard A. Johnson, treasurer, University of Washington.

Robert A. Trumpis, vice-president of Membership & Admissions, Norair.

Lyle G. Masterman, vice-president, Programs, Boeing.

Oliver E. Vroom, chairman, Research, Boeing.

Victor Harkoff, chairman, Hospitality, Boeing.

Objectives of the society include an extensive program of industrial research and study in management problems, with relationship to the industrial growth in the Seattle area.

The lightweight all-weather fighter was developed by Norair for the U. S. Department of Defense to meet the airpower requirements of the free nations for a modern, high-performance, high-economy aircraft. It marks the first application of U. S. funds and technology to a weapon system specifically designed for use by allied air forces.

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CHARLES BARR, Director

CHARLES BRADFORD, Editor

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What Cold World--? Good Human Relations is Norair Firm Policy

Joe Norcrafter has worked in the plant for 18 months. Work in his organization slows down. The contract for umpteen hundred parts for a supersonic stratospheric weapons system is running out. Uncle Sam's inventory shelves for the item Joe is making are filled.

The government has notified Norair management in plenty of time. Readjustments are planned out. Tooling, machinery, test equipment, floor space and personnel—everything to do with the project must be rescheduled.

Cutting back from a complete contract is not too complicated—except in one area. Equipment can be stored, sold, returned. Floor space can be converted to any one purpose of the multitudinous needs of a large manufacturer.

But what about the man? What about Joe? He can't be stored, sold, returned to origin. He is a living, breathing, eating, human being with a missus and two kids at home. He has payments to make on his home and car. Furthermore, he is the most valuable asset a company can have.

When contracts are completed, Joe gets special VIP treatment. His department advises the Personnel office that on a particular day, say three weeks hence, he will be available . . . Looking for a job.

And here is where the Norair philosophy of good human relations takes over. Personnel, Dave Stadler, chief, is the key point.

Any man or woman, whose job at Norair ends because of work readjustments, is automatically up for transfer, and, incidentally, being up for transfer is a long way from a farewell.

Each morning in Personnel, Norcrafters in the transfer section give special attention to people like Joe.

His personnel folder is pulled and his seniority is noted. Then a list of all job openings in every Division is immediately scanned. Thus, Personnel has a Corporation-wide picture of the entire job needs. Radioplane, Nortronics, as well as Norair are reported. If Joe's skill is needed anywhere in Northrop Corporation, his supervisor advises him immediately and if Joe accepts the transfer, the problem is solved.

Scanning requirements of all Divisions is an established courtesy extended to all Norcrafters faced with layoff. Also Joe's personnel record will—he is asked to list it — reveal his second skill, and many times Company openings made to order are found in this way.

If no jobs are open within the Company for Joe's skills, and layoff is the only way, the second step in personal service comes into play.

As a matter of long established policy, Norair maintains constant contact with all airframe and allied industrial concerns in the area. Skills and backgrounds needed by our neighbors are posted each day.

If X company in Inglewood needs a man like Joe, there will be X company applications available right here at Norair and Personnel will assist Joe in completing the application for the new company and supply him with a Norair card of introduction.

If jobs are open for Joe's skill he loses no time in going to the right place. Nine times out of ten, if openings exist, Joe is working again inside three days.

A third and very important step in layoff procedures is the close contact established with the California State Employment Office. Job openings of all descriptions are on file here. Norair knows each day what classifications are needed and Norcrafters effected by layoff are advised and referred.

"Once a Norcrafter, always a Norcrafter," so the true saying goes, mostly because of another saying that says, and means what it says, "Northrop is a good place to work."

Eventually, Joe Norcrafter gets a call to return, with seniority, to his Norair job. When contracts go on the upturn, and there are many job openings, the first move after the transfer search for suitable people in the plant, is to call back those on layoff. And this is important—did Joe keep Personnel advised of his correct address? If he has, he will be called back when his seniority turn comes.

What happens if Joe can't be contacted?

Rules are, if the address is not kept correct, seniority is lost. Keeping the correct address on file at Personnel is Joe's responsibility.

Can Joe Norcrafter on layoff go so far away — Africa, the South Seas — that he won't be called back?

No, says Personnel. No matter where he is, we ask him to come back. That's Personnel's responsibility. One Norcrafter on layoff is in Europe right now. When his skill and seniority come up, he will be notified.

Going on layoff is going out into the world to be sure. But the way things work at Norair—it's not a cold, cold world. It's warm with good human relations—and the folks in Personnel are happiest when welcoming Joes and Janes back home.

GOOD HUMAN RELATIONS—A Norair tradition. Personnel men, Bob Weiss and Fred Briscoe, review industry skill needs as part of Company policy to assist Norcrafters unavoidably up for layoff. See story for details of this long standing feature of Norair-employee relationship. Note industrial concerns listed on wall as having immediate need for aircraft and missile workers.

Mr. Jones

(Continued from Page 1)

presentation of the first 20-year pins. Ten Northrop men from Norair, Nortronics and Radioplane were honored.

Mr. Jones congratulated the men on their service achievement and then spoke on Northrop's present business position and future outlook in relation to the world defense picture.

Special guests at the meeting were Northrop Corporation board members James Allen, vice-president and assistant to the president, and Richard W. Millar.

In assessing Company progress and direction Mr. Jones stated that, "As our development planners forecast long ago, the nation's military procurement policy is being shaped in new directions to meet the critical problems of rapidly rising defense costs.

"Northrop's pioneering program to apply the latest technology to develop simplified high-performance weapon systems at lower costs has placed the Company in a highly advantageous position. A company serving the best interests of its customers will not only produce high performance weapon systems but will give equal attention to reducing costs. This is Northrop's position."

Specifically pointing to the T-38 and the N-156F, Mr. Jones complimented Pilot Lew Nelson and all crew members as being dedicated to the success of the new lightweight family and star salesmen as well.

"We expected fewer dollars to be available in the defense budget four years ago when we designed the T-38," he stated. "And now our low-cost solutions flying at the desert today assure us of business tomorrow.

"Again Northrop is in an unique and favorable position. The dollar sign will exert strong influence on the procurement decisions in the future, and the next few months will set the pattern," he stated.

Commenting on the Snark, Mr. Jones said, "Military leaders affiirm that the Snark is still the only intercontinental missile pointing at Russia today. We have been told by high authorities in Washington to keep up our good work on the Snark."

It's a Northrop Tradition

Smoking in the plant——.

Northrop was the first to establish the custom of smoking in the plant and during working hours. It all happened during World War II.

True, production schedules were heavy with demand for the Black Widow and the Reporter. Men's time was precious. Airplanes at the front meant our freedom.

Northrop management took a long look at the smoking question. Here was a safety valve. Let people relieve their tensions by smoking in the plants, on the job. Certain areas, namely the Paint Shop, fuel and paint storage areas, and fueled airplanes were out of bounds.

There were many dim views. Insurance companies, some management men, a few members of our personnel cried sure disaster.

A tryout of the idea dispelled many of the fears about smoking in the shop. Contrary to dire prediction, our men and women were very careful about their smoking privileges. They took careful heed of the no-smoking areas. They didn't jeopardize critical and skilled jobs by trying to smoke and do fine work at the same time.

And the new custom did prove to be a safety valve. Furthermore, and from the very first, it was obvious that the new smoking rule was here to stay.

In all the years since, not a single fire, case of damage or accident has been attributed to smoking in the plants and on the job.

It began as an idea. It became a Northrop custom. Other companies followed Northrop's tradition.

NORTHROP–NORAIR

NEWS BRIEFS

PRESQUE ISLE VISIT—General Manager Nolan; Customer Relations Vice-president John Alison; and Church Haenke, director of Active Projects, visited Presque Isle Air Force Base to review Company progress on Snark installations. Base is now officially a SAC station, having been transferred 1 July 1959 from 23 Fighter Group to 702nd Strategic Missile Wing, Colonel Richard W. Beck, commanding.

FAMED AIRMEN VISIT—Six of the world's most famed airmen, members of the USAF Thunderbirds, paid an unofficial visit to the USAF Flight Test Center and Northrop's Norair Division facilities here to become acquainted with the new N-156F "Freedom Fighter" and the T-38 "Talon" supersonic trainer . . . The flight demonstration team expressed extreme interest in Norair's "new generation" aircraft which are undergoing flight testing at the test center at Edwards Air Force Base, California. The visiting group consisted of Major R. S. Fitzgerald, Captains J. R. Crane, C. W. Maultsby, R. D. Janca, and G. D. Williams and Warrant Officer M. D. France, the Thunderbird's maintenance expert . . . At the test center, the Thunderbirds were briefed on the twin-engined aircraft by Norair air pilots Lew Nelson, Hank Chouteau and Jack Wells. They also discussed the planes' capabilities and handling characteristics with Captains Swart Nelson and Bud Evans, Air Force test pilots for the two planes . . . The six-man team also took an extensive tour of the mile-long Norair engineering and production complex here where the N-156F and T-38 are being manufactured.

CONTRACT NEWS — George Douglas, vice-president, Engineering, advises that Norair team—Paul Wierk, Engineering, Bob Reed, Contracts, and Jim Carpenter, Customer Relations—has negotiated a basic engineering contract with North American Aviation for design of components for the B-70 bomber and the F-108 fighter. To date, seven authorizations have been issued in amount of over 110,000 hours under the contract.

NEGOTIATIONS—Al Morgan, vice-president, Contracts, advises that final redetermination negotiations by a Contracts team, headed by Gid Kelley and Bob Reed, have been completed with Boeing on 81 KC-135 outerwing sets. Contracts team, headed by Ed Robinson, has completed negotiations for major spares on 707 and KC-135 . . . Final redetermination of remaining orders in present Boeing contracts, which extend out as far as March, 1961, are underway.

DEBENTURES—Northrop's debentures issue, in the amount of $10,000,000, marketed 28 July 1959, was oversubscribed and shortly after issue was selling at a premium, it has been announced by George Gore, Corporation secretary and Norair general counsel. The debentures, which are part of Company long range plans and considered opportune in view of the current investment trends, bear 5 per cent interest per annum, are due 1 July 1979, and are convertible into Northrop common stock at $38.50 a share. Debentures are sold in $1,000 units. Proceeds, received 7 August 1959, will provide the Company with funds for its anticipated medium and long-term working capital and asset requirements . . . Northrop's first 4 per cent debenture issue, sold in 1955, is now selling at approximately 121 and is convertible into Northrop common stock at $27.25 per share.

BBSF Classified Ads

Items advertised in "For Sale" and "For Sale or Trade" categories are limited to a maximum of $50. Price must be stated.

Ads for agencies, commercial enterprises and private businesses are not accepted.

Deadline is noon Monday, nine days before publication.

FOR SALE

SHAVERS, practically new Norelco Electric and Sunbeam, $9.00 each, 3½ HP OUTBOARD motor, $20, FR 8-4472. A

SHOES size 4 & 4½ B—late styles. Green fall SACKS 5th Ave SUIT size 10—worn once. Cost $69.00. Shoes $1 to $3.00 a pair. Suit—$30.00. EX 4-1375.

WASHER Kenmore Automatic $35. GA 7-5674. A

DINETTE set (hardwood) has upholstered chair cushions; near full roll of 15# felt ROOFING PAPER approx 200 sq ft (1) $10 (Dinette Set) (2) $1.50 (Roofing Paper) TA 8-2857. A

TRAILER - 2 wheel, small utility 4½'x 3'x2'. Stop & tail light. 400x8 tires—59 plate. tarp included. $25.00. OR 7-8868.

DINETTE set, almost new, 2 extra leaves & 6 chairs (padded) $50.00. OS 6-5219.

FINCHES various breeds (7) inc. nest boxes & feeder $10.00 takes all DA 6-3282. A

MATTRESS and box spring matched set, double size, like new, completely protected by plastic cover $35.00 FR 9-5690

CAR COOLER—never been used, brand new Allstate $14.00 in the stores. $10.00 PL 4-8142.

TOBOGGAN six foot $5.00 Box 2201. A

RANGE Wedgwood Gas $25.00 12 Cubic ft. Servel Refrigerator $50.00. BOAT 9-ft hydro Plane $50. OR 1-1660. A

SURF BOARD, balsa wood, fibre glassed, excellent condition, 10' long. $45.00. DA 9-8161. A

DOG, Male collie, 3 years old AKC—Show dog—wonderful with children $50. TE 2-4472. A

SHOWER DOORS glass for tub with mounting hardware $25 DA 9-7338 A

RUBBER POOL 3 feet deep x 9 feet diameter $20. TE 1-3943. A

DOGS, small standard poodles A.K.C. $50.00 Call TE: 1-3943. A

Massager Lounge $40 OR 4-3742 A

BIKE 26" New paint stripes, chrome fenders, risers, boy's $20.00 FA 8-2852 A

WASHER, Hot Point Automatic Good working condition $20.00 OR 4-0945. A

CAMERA, 35 mm. Bolsey. Flash and case. Like new $30.00 EAstgate 2-2125

CHEST of Drawers with Drawers and small mirror. $10.00 PL 5-6648. A

SEWING MACHINE, Singer treadle type good condition table type cabinet $30. Model airplanes, 5 engines 6 planes and accessories $20. PL 9-2143. A

VACUUM, G.E roll easy - turquoise like new $35.00 DA 6-0895 A

RED COAT girls' size 12 almost brand new $35.00 OS 5-9677. A

CAR AIR CONDITIONER, water cooled type. 6 volt. Cost $48. Sell for $20 TE 3-9277. A

TRAILER 4'x7' well built, strong & light, 16 in. tires & 59 Plates also spare wheel. $45.00 PL 2-7788. A

PICTURE FRAMES 14" x 18" openings three for $5.00 GRanite 7-1539. A

CAR COOLER, Wright, with ice chest, for late model cars 12 volt. Also Transformer to convert cooler for home use. Both are brand new, used once. $40 for both. GA 3-1363. A

RECORD CHANGER, automatic. Webcor Mod. #100, 3 speed, intermix with Sonotone HiFi Monaural cartridge and diamond stylus. Spare Sapphire stylus (new). $25. GR 2-6069. A

DINETTE SET, chrome, grey top, w/4 chairs, red & grey. $30. DA 3-4628. A

LUGGAGE CARRIER, good condition, $5. OR 7-1286.

DINING ROOM SET, Early American. 6 chairs & buffet; dark mahogany. $50. OR 7-1286. A

DINING SET, walnut Duncan Phyfe, 7 piece. $50. F. J. Jean. PL 3-8188. A

WHEEL CHAIR, Abbey Rents Collapsible. $35. DA 9-3104. A

ROASTER, Westinghouse Electric, $15. OS 6-6074. A

WANTED TO BUY

PICKUP, V8. 1954, Ford ½ Ton. Pl 4-8230. B

FORD 1940 4-door clean body without motor or seats, or as second choice a 1939 Ford in same condition & third choice a 1940 Ford club coupe or 2 door sedan but a very clean body. Pl 4-8243 P

FOR SALE OR TRADE

BAND SAW, Atlas 2-wheel-type with new rubber tires and blade, 10" throat and TABLE SAW, hardwood construction with 8" blade, trade for: 3 or 4 drawer standard all metal file cabinet. Box 2202. M

GEM, MINERAL CLUB SCHOOLING IN GEOLOGY

Rock hounds, would-be rock hounds, and those Norcrafters just plain curious about the earth they walk on are invited to participate in the upcoming NRC course in basic geology and mineralogy it is announced by Ray Cole, commissioner NRC Gem and Mineral Club.

The course, to be taught by Wally Ford, director of Life Science, El Camino College, got under way Thursday, July 30, at the NRC Clubhouse. All Norcrafters, their families and friends may attend.

Tonight, Wednesday, August 12, the Gem and Mineral Club will hold a special program of movies at the Clubhouse.

FOOTBALL AND CINERAMA RATES FOR NORCRAFTERS

The Rams and the Redskins play football at the Coliseum Friday Evening, August 21, at 8:15 p.m.

Reduced rate tickets are available to Norcrafters—$3.90 ticket for $3. Tickets are available at all NRC offices.

Cinerama South Seas Adventure tickets are available to Norcrafters at a reduced rate for a special Northrop performance Saturday, August 15, 1959, at 5 p.m. it is announced by Personnel Activities and Services.

Prices are $1.75 and $1.20, children under fourteen 90¢.

RIDES WANTED

7:00 a.m. — 3:45 p.m.

VERMONT AVE. & 232 ST., Torrance. Our house is second street north of Harbor Theatre (Drive in) on the west side of Vermont. Vernon Tutterrow, ext. 2200, DA 6-6319. 2

CENTURY & CRENSHAW BLVDS, Inglewood. B. McDonnell, ext. 1359, PL 6-9619. 2

SEPULVEDA & CENTURY, Los Angeles. A. C. Malm, ext. 2200, OR 1-8356. 2

SANTA FE & CARSON, Long Beach 10, Edward Close. TE 4-8790. 2

7:30 a.m. — 4:15 p.m.

LENNOX & HAWTHORNE BLVD., Inglewood 2. Irene Bart ext. 457, OR 7-4324. 3

FIRESTONE & ATLANTIC or IMPERIAL & ATLANTIC, South Gate, Carol Gold, ext. 2436. LO 9-1115. 3

8:00 a.m. — 4:45 p.m.

KATELLA & LOS ALAMITOS BLVD., Los Alamitos. George Forbes, ext. 2535. 5

COLORADO & ALLEN (Car pool), Pasadena. Ed Jucevic, ext. 531, SY 6-4696.

ROSECRANS - INGLEWOOD, Hawthorne. M. Duque, ext. 2088, OSborne 5-9205.

CRENSHAW & 174th, Torrance. Louise Hudson, ext. 1602.

PARAMOUNT OR ORANGE & DELAMO, Long Beach, W. H. Covert, ext. 2281. GA 3-1363. 5

ROSECRANS & VAN NESS, Gardena, Oscar Navarette, ext. 2143.

93rd and HINDRY PL., Los Angeles. I have C lot pass, Edith Farkas, ext. 523, OR 7-7468. 5

RIDES OFFERED

7:30 a.m. — 4:15 p.m.

SAN BERNARDINO FREEWAY & BARRANCA, Covina. Richard J. Hallowell, ext. 667. ED 2-4409 13

8:00 a.m. — 4:45 p.m.

COLORADO & ALLEN (Car pool), Pasadena. Ed Jucevic, ext. 531, SY 6-4696

CRENSHAW & 174th, Torrance, Louise Hudson, ext. 1602.

PARAMOUNT OR ORANGE & DELAMO, Long Beach, W. H. Covert, ext. 2281. GA 3-1363. 15

93rd and HINDRY PL., Los Angeles. I have C lot pass. Edith Farkas, ext. 523. OR 7-7468. 15

Norair Sponsored

THAT MAN AT SECOND—! In double play in the little league tournament, sponsored by Norair, is young Hank Bolding of Torrance called out by Ump Ken Bannister is Dennis Buckles, Inglewood. Dennis and Hank participated in the Los Angeles-Bay Cities sectional tournament of Little League baseball last weekend. Throughout August, Little Leaguers all over the United States are vieing for regional championships and 13th International Little League World Series at Williamsport, Pennsylvania, August 24.

Norcrafters to Make Blood Bank Deposit

The mobile blood bank will call at the NRC Clubhouse, Tuesday, August 25, to pick up Norcrafter deposits, it has been announced by Personnel Activities.

This will be the first opportunity in recent weeks for Norcrafters to balance the life-giving books.

Scheduled for this visit are day shift people from Plant I, Crenshaw, and the Engineering Center, for Norair; and Plant II for Nortronics.

Application forms and complete information now available from organization clerks.

Transportation will be furnished to the Clubhouse.

Donors are needed. All Norcrafters in the areas mentioned are urged to give.

SQUARE DANCERS TO GRADUATE

Square dance beginners' 1959 class will graduate Friday, August 14, at the Henry Clay jr. High School, 124th and Western Avenue, it is announced by George and Cora Sanborn, commissioners NRC Square Dance Club. Everybody is invited.

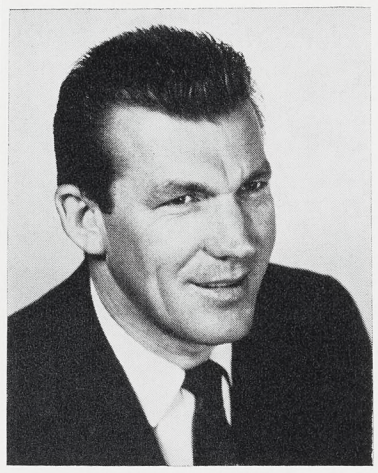
The graduation will also be used as an excuse for a reunion of past Square Jet members.

"Good time to kick up your heels," said George.

It is also announced that officers elected for the next six months are: President — Ralph and Connie Detloff, Vice president and Treasurer—Boyce and Betty Ahlport, Secretary—Marilyn and Jim Andrews, and Sheriff—Dick Stetter. Ralph Hill will be caller. Arlene Hill will be instructress.

Hank Fritzel—Radioplane Elected NRC President

Hank Fritzel, Radioplane, has been elected president of the NRC for the 1959-60 term, it has been announced.



HANK FRITZEL

The election took place at the recent annual balloting for Club officers at the Clubhouse in Hawthorne.

Hank, a mechanical engineer in Radioplane's Paradynamics group, has been a Norcrafter for six years. A native of Lawrence, Kansas, he has been a Californian for 32 of his 37 years. His hobbies are sports cars and motorcycles.

Hank got started in Radioplane recreational activities three years ago via the game of softball. His first official NRC position was secretary. He then became president. When the Company clubs came under one banner, he was made vice-president of the Radioplane Division Council.

"I got interested," said Hank. "And one thing lead to another. But I first saw the value of recreation activities in industry when I was playing softball."

TABLE TENNIS TOURNEY SLATED FOR SATURDAY

A table tennis tournament will be next. Ronn Wiggins and Burt Bracher, NRC vice-presidents, Norair and Nortronics, announce that the event will take place Saturday, August 22, 10 a.m. at the NRC Clubhouse.

RAWHIDE BRIDLE LOST BY NORAIR TELEPHONE MAN

Ernie Elmer, telephone man at El Segundo, lost a rawhide horse bridle and bit.

Ernie took part in the recent Hawthorne Community Fair parade. When the parade was over, he removed the bridle to ease his horse. He hung the bridle on the fence. He forgot it. When he went back, the bridle was gone.

Anyone knowing the whereabouts of this important piece of Ernie's western equipment is asked to call the operator at the El Segundo facility, or call Ernie at FRontier 2-5591. The finder will earn Ernie's undying gratitude.

NRC CAMP CLUB IN BIG TURNOUT

The NRC Camping Club outing to Dark Canyon in the Idyllwild area went over with a participation bang, it is reported by Fred Brant, commissioner. Sixty-three persons made the trip.

The potluck, get-acquainted dinner was held on schedule Saturday evening with no lack of food. After everyone had eaten through seconds, thirds, and a scattering of fourths, the Norcrafter campers gathered around the fire ring for singing and guitar playing.

It rained a little during the night, a 30-minute sprinkle, says Fred, but no one had to run for cover.

The next camping date and place is now being blueprinted. Announcement of details will be coming soon.

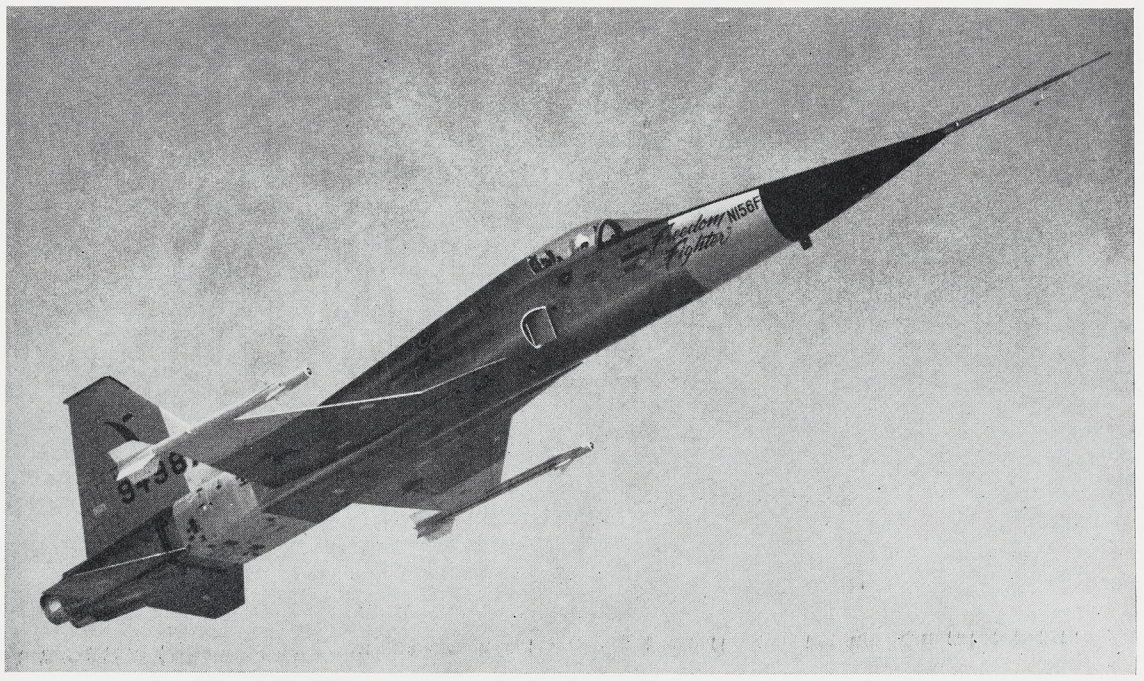
N-156F Freedom Fighter

Northrop-Norair News

Issued biweekly by Norair Division of Northrop Corporation • Wednesday, August 26, 1959

Egg Trick Works

FUN AT THE FUNSTIVAL—NRC folk from all Divisions were off to Disneyland's Holidayland August 7. They arrived early, stayed late. Egg throwing contest was won by the Richards—Jim and Ursla, Nortronics—with Ursla, as Jim rests on laurels, getting in a fast last egg. From left: Ursla, Jim; the kids—Jeanne, Merry, Freddie, and Jimmie. Ronn Wiggins, NRC v-p, Norair, thinks it's pretty funny. It was. (More Funstival photos, page 4.)



FREEDOM FIGHTER'S MISSILE MUSCLES—N-156F Freedom Fighter slipped into one of its combat configurations last week, donning a pair of deadly Sidewinder missiles for the first time less than three weeks after making its flight debut at Edwards. In addition to Sidewinders, the N-156F can also carry a wide range of other armaments for variety of air-to-air and air-to-ground fighting operations.

News Awarded Silver Medal

The Norair News has been awarded the silver medal for special interest publications at the California State Fair and Exposition, it has been announced.

The honor is in recognition of

(Continued on Page 2)

N-156F Writes Team Record - - Key Men Tell Schedule Inside Story

Norair people are proud of their record on the Freedom Fighter N-156F. Feasibility of Northrop's lightweight family of airplanes was established several years ago and previous work on the T-38 showed the way but with the Freedom Fighter there is much that is new and specific. The N-156F is a supersonic fighter in a weapon system concept. The T-38 is a supersonic trainer.

Originally Company funded, then under U. S. Government sponsorship, the program called for a management commitment to test-fly the N-156F by July 31, 1959.

The assignment to the plant was crisp, clear and concise—go-ahead May 27, 1958, shop-complete May 31, 1959.

This was a tight schedule—buy raw materials, test and build a Century Series performance fighter in 12 months.

Here, from key members of the team, is the story of how the job was done.

Jack Hinchliffe, former director, Materiel, newly appointed acting director, Associated and Subcontracts section, Customer Relations: "Successful achievement of Materiel's part in cost, delivery and quality targets are attributed to three major points: (1) communications; (2) supplier relationships and know-how of purchasing personnel; and (3) cooperation of other departments. Accepting the "impossible" program as a challenge to Materiel's capability, a target cost team consisting of members of Materiel, Tooling, Manufacturing, Design Support, and Engineering Support, was organized to analyze each manufacturing section of the airplane. This was immediately followed by a similar analysis of the functional systems of the fighter, as compared to similar systems utilized on the T-38 trainer. The cost awareness, procurement background and state-of-the-art experience which had been generated by aggressive T-38 procurement effort paid immediate dividends . . . Early in 1959 a symposium attended by manufacturers from both the United States and Canada, representing not only large business but predominantly small business enterprises, met and was an outstanding success; this led indirectly to cost reduction, value analysis and other supplier efforts which eventually contributed substantially to the under target performance achieved on the N-156F airplane. The enthusiasm developed has further resulted in bailed equipment approximating $\$3/4$ million which will be contributed by suppliers to the first "fire control equipped" N-156F operational aircraft shortly to be put into flight. Without the outstanding cooperation of Manufacturing, Engineering, and Inspection personnel, such an achievement would not have been possible, and that without excellent supplier support, the schedule and quality objectives of the program in all probability could not have been met."

Hinchliffe

George Schnug, director, Manufacturing Program Planning: "From our point of view, the N-156F schedule of 12 months from go-ahead to shop-complete was very tight, but this was our calculated target and management set the pace. We were positive that it could be done. It was done. We had some uneasy moments, during the time of necessary changes — the coke bottle and ducts. But these problems and all others were licked because one of our operating policies was to acknowledge and define trouble ahead of time. This is where many projects begin to bog down. But we didn't wait around. The team had problems solved by the time they happened. It takes good communications; you can be aggressive and things get done according to plan. I would say the success of the program has been due to (1) confidence of team

(Continued on Page 2)

Schnug

TALON FLIGHT LINE SET FOR PALMDALE

Air Force planning calls for Norair to start preparing Palmdale Plant 42 facilities for the T-38 Talon toward the end of the year, it has been announced.

Colonel J. R. Coolidge, Sacramento Air Materiel Command, and Major B. A. Hurlbut, project officer at Palmdale's Plant 42 made the announcement to Antelope Valley business and civic leaders last week.

The Air Force statement, released by Major Hurlbut stated:

"Present planning calls for the Norair Division of Northrop Corporation to start preparing facilities at USAF, Plant No. 42 at Palmdale toward the end of 1959 so that production, final assembly and flight checks may commence on the Air Force's Talon T-38 supersonic trainer aircraft early in January, 1960.

"The first phase of this program will be a pilot line operation initially staffed with approximately 30 persons, which will be expanded to meet USAF requirements."

Space Men Join Norair Astro Study

Appointment of two outstanding scientists to top staff positions in the Astro Systems and Research space laboratory at Norair's Division, has been announced by George Douglas, vice-president of Engineering.

Doctor Elliott T. Benedikt, an authority on space flight and reentry mechanics, will be head of Astro Science for Astrodynamics and Theoretical Physics. Doctor Robert G. Lindberg, a specialist in the field of radiation fallout and nuclear biology, will be head of the Astro Science Laboratory for Bio-Astronautics. They will report to Norman V. Petersen,

(Continued on Page 2)

NRC Boat Club to Sail for Catalina Labor Day Week

Freedom of the seas will certainly be the keynote description of the upcoming Northrop Boat Club Emerald Cove-Sandy Beach cruise.

NRC Norair Boat Club Commissioner Ken Payne announces this stellar, practically South Seas event, to haul anchor Labor Day weekend, September 5, 6 and 7.

Where is Sandy Beach? It is past Isthmus a ways. It's 207 degrees magnetic from Los A Light.

Departure will be 7 a.m. from Los A Light for outboard cruisers and 8 a.m. for larger cruisers. No waiting. Faulty alarm clocks and "Joe didn't call me" are not valid alibis.

What about the free, for a 50¢ registration that is, part of the cruise? It's free steak fry, free potluck wiener roast and free landing privileges.

A few guidelines:

Rendezvous, landing instructions and tickets available at time of registration.

Registration forms are at all Divisional Personnel Activities offices.

Deadline for reservations is Friday, August 28.

Some of the events:

Fishing, dinghy racing and tipping, swimming, skiing, a photo contest.

This is the biggest Norair-Nortronics event of the Labor Day weekend. Sounds like fun.

Dust off your oars and get rowing!

What's the Answer?

Do you have a question? The Norair News *will welcome questions on any subject of common interest and will get the correct answer from the people who know. All questions will be answered, either through the column in the* News *or by memo or telephone call to the requester when the inquiry lacks sufficient common interest for all Norcrafters.*

Queries are to be directed to the Editor, Norair News, *organization 1320, zone 65. Inquiries may be signed or not, as you wish.*

(Editor's note: Inadvertent transposition of paragraphs last issue in answer to the retirement question beclouded the meaning. Question is here re-answered correctly.)

Question

Why does the Northrop Corporation provide greater retirement benefits for employees hired at an older age than those hired at a younger age?

For example, all employees hired at ages 18 through 24 require over 20 years of continuous service before earning a vested interest in the retirement fund. On the other hand, if hired in at age 35 or older, only 10 years of service is required for a vested interest.

Answer

The Retirement Plan does not provide greater benefits (i.e., payments upon retirement) to a person hired at an older age. On the contrary, since the amount of benefits payable is dependent upon both length of service and rate of compensation, the younger a person is when he enters the employ of the Company, the greater will be his monthly payments upon retirement.

It is true that the older employee can become *vested* with fewer years of service than the younger, as indicated in the question. This is because vesting is based upon age as well as length of service. The age requirement provides an inducement for an employee to continue to remain with the Company and to give the Company the benefits of his maturity, that is the years after age 45.

NORTHROP–NORAIR

NEWS BRIEFS

IN EUROPE — N-156F Freedom Fighter presentation team in Europe — Netherlands and Belgium as first countries on tour itinerary—includes Gwynn Robinson, manager, Customer Relations, Northrop International; Norair Customer Relations men Bob Gates — assistant manager, Wally Reese—C-R N-156F Project chief; Engineering's Weapon System Development men, Bill Oakes—applications engineer, Bill Taylor—supervisor, Air Defense Systems branch, Lowell Eason, Ground Operations branch; Manufacturing's Mike Creamer—director, Program Planning section.

T-38 OVERSEAS SALES—Plans are being tentatively formulated for T-38 overseas sales to freedom nations, it is announced by John Alison, vice-president, Customer Relations. The program, to be developed in conjunction with Northrop International, will be discussed with Air Force authorities for proper coordination and policy.

Norair Doctor Advises Need for Polio Shots

Doctor Richard Krebsbach, Norair chief, Medical Group, cautions Norcrafters on polio.

States the doctor:

"Everyone should have polio vaccine shots: infants, school children, teenagers, college students, adults of all ages.

"Children had priority in the days when vaccine was in short supply, but now it is available for adults as well.

"Paralytic polio can strike older people, and usually is severe when it does.

"Whatever your age don't take a chance with polio.

"Remember, nobody else's vaccination can protect you. You must be vaccinated yourself.

"The Salk vaccine can prevent polio paralysis, but only if it's used.

"There were severe polio outbreaks last year, with an alarming rise (44 per cent) in numbers of paralytic cases. Tiny babies were the chief victims — one- and two-year olds. Nearly all of those stricken had not completed the series of three shots.

"Three properly spaced shots of vaccine are 90 per cent effective against paralytic polio. The second shot is due two to six weeks after the first; the third, seven to twelve months after the second."

Dr. Krebsbach advises that Norcrafters call their family physician or the city health departments for information on polio shots.

Northrop-Norair News

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NORAIR DIVISION

CHARLES BARR, Director

CHARLES BRADFORD, Editor

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Space Men

(Continued from Page 1)

chief of Astro Systems and Research.

Dr. Benedikt has contributed significantly to advanced studies in the fields of aeronautics and astronautics. He received his Ph.D. from the University of Bologna in Italy, and has been active in research of extreme value in the space field. He has previously been associated with the Massachusetts Institute of Technology, the U.S. Air Force's office of research, and held positions with a number of major aircraft companies as a missile research scientist.

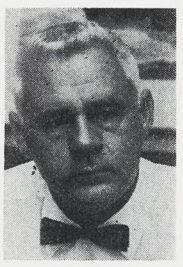
Dr. Lindberg was formerly chief of the Physiological Environmental Radiation Division Laboratory for the University of California at Los Angeles. His work has involved programs for the Atomic Energy Commission, and advanced studies in areas of life support systems, human factors, space radiation and astrobiology.

Freedom Fighter

(Continued from Page 1)

Mangurian's preventive aerodynamics, this was the factory's application of preventive management . . . Excellent communications, collaboration, cooperation, coordination, a firm unrelenting target and a fine airplane—all this in a package is the Freedom Fighter 12 months from go-ahead to shop-complete."

Dick Beck, director, Manufacturing Engineering Section: "Manufacturing, Engineering and Tool Engineering are primarily concerned with producibility, volume production. The N-156F is an ideal blend of design viewpoints in that it is both high-performance and volume producible . . . A 1000-airplane drawing configuration was successfully used on the first N-156F . . . Perhaps most unusual in manufacturing developments is the extensive use of aluminum honeycomb bonded structure. Norair demonstrated fine capability in this field. Another significant achievement in construction was chemically milling of formed sheet metal parts. These and more unusual applications and techniques of state-of-the-art were a real challenge to the entire team, especially so since flow-time was 50 per cent of industry normal . . . The schedule? I guess when we went into the program we knew it just wasn't possible. After that we decided to do it whether it was possible or not. And we did. It took teamwork, compromise, mutual regard. I want to put in a word of tribute for communications and vendor cooperation. Manufacturing Research and Development solved many critical problems, and in so doing, increased Company capability many times over. The N-156F success is something that we are all proud of."



Beck

Wallen

W. E. Woolwine, director, Design Engineering: "The N-156F record is remarkable in many respects. Actually we had no major troubles. We knew the design and performance answers step by step as the airplane took shape. There is no substitute for experience, capability and background and the N-156F team had all three. Missile reliability thinking showed up strong. We used XOs (experimental orders) as a shortcut to action. They were hand-carried. The N-156F is state-of-the-art. We didn't design in big development projects. There were many new applications of proved items but the entire system was sound, basic, and with a firm objective. The airplane caught on with everyone on the project. If a job had to be done, people stayed and burned the midnight oil and the job got done. And the vendors — many of them came in hand-carrying rush components. General Electric was most cooperative. Their men were here night and day. Engines were a big factor all the way. Air Force cooperation was also outstanding. Milt Kuska and his Flight Test people—cooperation. A fine procedure was put into effect for obtaining test specimens early and they were ordered with maximum time allowed. The Labs did fine work. To sum it up from design point of view—experience, especially on the Snark, and team spirit from all sides gave us the N-156F success."

Woolwine

John Martin, chief, Aircraft, Missiles and Test Base Inspection: "Our view of the N-156F first article workmanship indi-

EDWARDS PILOT CITED—Captain Norvin C. Evans, Jr., Edwards project test pilot for Northrop N-156F Freedom Fighter, is presented an N-156F model and certificate by Dick Nolan, Norair vice-president and general manager. Under the new Air Force category testing program, Captain Evans flew the N-156F on its third flight. The N-156F and the USAF-Northrop T-38 Talon are the first two airplanes to be tested under this new AF category system.

News Award

(Continued from Page 1)

the significance to California and the nation of the Aireporter story "A Tower in the Plain."

Editor Charles Bradford (Aireporter) and photographer Lou Meyer will attend the Press, Radio-TV banquet in Sacramento next weekend where Governor Brown will make presentation.

Published last year, "A Tower in the Plain" told the story of the Strategic Air Command and the Northrop-Norair Snark intercontinental missile and paid tribute to the men, both Norair and Air Force, who test and operate this new American weapon of defense.

"A Tower in the Plain" after being published in the Norair News was syndicated and printed in 262 military newspapers with an estimated readership of over 2,000,000.

This is the second such honor granted the News by the California State Fair. Previously, in 1954, the News was awarded the Public Service Award for the story of Antelope Valley and its emergence as an aircraft industry center.

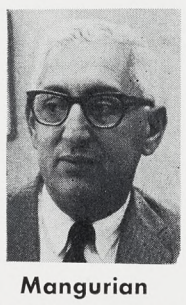
At Northrop, the two scientists will be working on advanced space projects in the fields of space training vehicles, orbiting systems and manned space projects.

hter Team Record

cates that this airplane is destined to be as high in quality as in performance. There are no designed-in manufacturing stumbling blocks; it is definitely a quality as well as quantity production design. Engineering is to be congratulated for a clean, sensible product . . . At the outset of the program, we assigned our most experienced men to follow the airplane all the way. As parts progressed from section to section, our best men were called upon for area support. They knew every print by number and sequence. Team cooperation was outstanding in all respects. We were able to keep the airplane bought out from shift to shift as it took shape and never in a single instance did we compromise the safety of pilot or ship in the interests of costs or schedules. The N-156F is a classic example of what good management and a well-organized team can do."

Martin

George Mangurian, director, Analytical Engineering: "The N-156F is a fine accomplishment and a credit to Norair. It is more. It is a credit to the industry. We had a tight schedule. We had a firm cost target. We had a high performance requirement. Such an assignment can never be easy. But I can't say that the team was seriously concerned about achieving any part of the goal. At the outset, the engineering concept of the N-156F was one of preventive aerodynamics. Wind tunnel and lab tests got under way at the start of the program. The new and modern computer center was a great assist in speed, accuracy and comprehensive range of data . . . There were two steps that guided N-156F engineering. First—a detailed study of Century Series mistakes of record in order that the N-156F be designed around such problem areas. Second—thorough lab testing of systems, configuration, and structure, all prior to manufacturing commitment. However, if we were to figuratively assemble all factors on the N-156F success and submit the question of how and why to the computer center, the answer would be threefold: Communications, coordination, and cooperation."

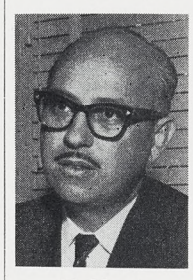


Mangurian

Ray Gardner, N-156F project engineer: "Management gave us the go-ahead and we looked at the spans. They overlapped in all areas. There weren't enough weeks available in the year that we had to shop-complete the N-156F. We sat down and worked our figures over and we cut the engineering time. There still weren't enough weeks. We cut more time and from the beginning of the spans, not the end. We asked if we could have more time. They said no. Then we teamed up and really went at it. Our worst moments were when we upped the speed of the airplane—sloped the windshield for retrofit, redesigned the ducts, modified the coke bottle, with attendant Tool Engineering changes. And here Dick Beck and his boys are to be complimented for being fast on their feet, able to change direction, keep on schedule. But we made it. And we had Target Cost System on trial. We still made it. The first article airplane was under target cost and we made scheduled rollout date and flight date. Teamwork did it."

Gardner

D. G. McNeal, director, Manufacturing Control: "Norair capabilities were never more vividly demonstrated. Upstream programming, plus the coordination and solution of complex and technical problems prior to the time they reached the production cycle, contributed to the success of the N-156F program from the day we were given the go-ahead. . . . Highly developed communicating and coordinating features, coupled with streamlined processes of internal controls, provided maximum contributions to uninterrupted production schedules. Through a preplanned course of action with the Engineering, Tooling, Materiel, and Manufacturing organizations, Manufacturing Control knew what was needed *before* it was needed. There was no waiting on any system or agency to produce what was required. Objective and effective treatment by team effort was the motivating force that has led to one of Norair's finest productive achievements. Engineering test programs and the supply of spares were also supported by Manufacturing Control under pre-planned course of action as evidenced by the success of test flights, none of which were delayed for lack of spares replacements. Spares for flight tests were 100 per cent concurrent. Another Northrop "first." . . . As a member of the Norair team of real pros, Manufacturing Control can point with pride to the development and manufacture of a product unique in its class in all respects of cost, quality, and performance."



McNeal

It's a Northrop Tradition

The ten-minute break—.

This came early in World War II. Norcrafters were under the pressure of heavy Black Widow production schedules. Management decided that the health and well-being of our team would benefit by short periods of relaxation in mid-morning and mid-afternoon with night and third shift equivalents.

Overtime, Saturdays, Sunday, three shifts—. The rivet guns had never stopped chattering.

The ten-minute break was tried. Precedent was based somewhat on the Army's "take five" after an hour of marching. Oldtimers in industry were alarmed when, at certain intervals, the factory on signal fell oddly silent for ten minutes and men's voices echoed through the bays.

But management was right. Absenteeism went down. Product quality went up. Schedules were met and exceeded.

The ten-minute break is over 17 years old at Norair and is accepted as the time-clock or the tool check. Each Norcrafter uses the break to relax in the way he likes best. Some rush out to pitch a fast game of horseshoes. Checkers are popular. Some sit and talk. Some just sit. Some read. Some even raid the lunch box.

Many women whip out their tatting, knitting, or crocheting and get in a bit of needlework.

A cup of coffee or a cold drink is just about a must.

Northrop was one of the first in industry, if not the very first, to start the ten-minute break.

It began as a human relations idea. The idea became a custom, and another Norair tradition was born.

Historic Occasion

MR. NORTHROP-NORAIR—Man with most years of service is Tom Chittenden, chief, Norair Materiel night shift. Here he proudly receives his service pin from Corporation President Thomas V. Jones. Pin presentation to Tom and to nine other 20-year men took place at Management Club meeting. Left, M-C Prexy Elmer Noonan, Nortronics.

Suggestion Awards Show Norcrafter Inventiveness

Northrop's Suggestion Award Plan reports indicate that idea activity in the plants continues week after week to earn handsome payoffs.

Fuel tank test doors, assembly of tubes and fittings for brazing, a paper dryer, safety in testing explosive charges, a stretch press modification, and a safety suggestion for the K & T mill are some of the subjects which have benefited by Norcrafter ingenuity in recent weeks.

E. E. Honea, Process Paint and Upholstery, received $148 for saving time and money and turning out a more reliable product on the T-38 for suggesting a fuel tank test door for use during tank leak tests on the Talon. Honea's suggestion is reported by supervision to have saved 40 to 48 hours a ship. First suggested in March of this year, Honea's award check cleared the Management Award committee July 17.

George O'Banion, Advanced Production Mock-up and Assembly, took a long look at the present method of assembling fittings and tubes for brazing the mobile launcher cooling unit, came up with an aid to assist in silver brazing these parts that earned him $54.

O'Banion's idea was to assemble the tubing and fittings, drill holes through the fittings and tubing for Clecos to hold the parts in correct alignment, then do the brazing and finally fill the Cleco holes with braze.

This suggestion went in the latter part of April and was cleared by the Suggestion Award committee July 17.

John Killion and James Haddow, Photolab, improved paper drying to the tune of $27 apiece. Oscillogram processing, now under heavy load in the Photolab, Flight Test and at Edwards, found that humid weather and day-and-night runs and a schedule of 6000 sheets of oscillograph data a shift, posed an almost unsolvable production question.

Award winners, Killion and Haddow, suggested a sheet of aluminum or stainless over the drying drum thereby reflecting the heat back onto the paper. Faster drum speeds and dryer paper resulted. This award was cleared on June 15.

Bill Miller, Jig Construction, earned $50 with his suggestion for replacing hardened drive screws, which are customarily used to hold epoxy to tool bases, with soft aluminum rivets.

In jig building, after epoxy is poured and joined to the tool base, it is often necessary to file, machine, or drill to bring the tool to proper dimension. Hardened drive screws caused severe damage to the cutting tools. Aluminum rivets are now doing a better job.

Miller's suggestion was cleared on July 17.

John Puerta, senior engineer, Engineering Reliability, came up with a safety procedure, review and proper use of safety devices in testing explosive charges which would protect personnel from danger of accidental discharges during galvanometer tests. Idea which was awarded July 17, earned Puerta a $10 check.

Francis Glasser, Process Paint and Upholstery, suggested a remarkable material, Coverlite, for airbags being used as a plastic tool for air intake duct work.

The former material used cost $7.30 a yard. The Company pays $1.98 a yard for Coverlite. Furthermore, Coverlite, although flexible, pliable and easily worked, is to all practical purpose, rip-proof and tear-proof.

TWO DECADES AGO—Hawthorne Hotel, unchanged, is where Northrop started in summer of 1939, hung out the Company emblem and went to work building fighting airplanes. On Management Club occasion of 20-year pin celebration ten men met for photo and yarns of Northrop beginnings. From left, Tom Chittenden, Tom Quayle, Dick Nolan, Walt Gage, Bob Catlin, Paul Bonham, John Pfarr, Carl Raker, Roy Lindstrom, and Mel Brown. After photos, men reminisced about the old days. Mr. Gage was Personnel manager then, took employment applications of all those on his left. Mr. Raker forgot to sign in, nearly worked first week free. First airplane was N-3PB.

BBSF Classified Ads

Items advertised in "For Sale" and "For Sale or Trade" categories are limited to a maximum of $50. Price must be stated.

Ads for agencies, commercial enterprises and private businesses are not accepted.

Deadline is noon Monday, nine days before publication.

FOR SALE

TRAILER, tearcrop-type, $40. OR 4-5428.

PLAY EQUIPMENT, hobby horse, spring & rocker combination, cost $30, $10. HA 9-2764. A

MOTORBIKE, Whizzer, $35. PL 7-2753.

CAMERA EQUIPMENT, Argoflex 40, w/flash attachment, tripod, lite meter, $25. DA 4-8249. A

SPORTS EQUIPMENT, woman's golf clubs, 2 woods, 3 irons, w/bag, $30; shoe-type, white, roller skates, w/toe stops & carrying case, $15; golf shoes, size 5, $5. PL 7-4926. A

UNIFORMS, 4, Girl's, Hawthorne Christian School, size 5-6, $12.50. FR 9-2659.

PUPS, Boxer, AKC registered, champion stock, fawn, 11-wk.-old, $50. FR 7-2532.

BED, Vita Sleep, roll-away-type, convertible, innerspring mattress, $40. OS 5-6747. A

FLAGSTONE, Arizona, $5. a strip. GR 7-1539. A

AQUARIUMS, 2, 5 & 15 gal. w/stand, piston pump, heater, thermostat, filter & miscellaneous accessories, excellent condition, $40. FR 8-1658. A

COFFEEMASTER, Sunbeam, automatic, model C-30B, complete, $20. FR 4-1162

SKATES, men's, hockey-type, size 9, $10; roller-type. $10. EX 1-4860. A

DINING TABLE, mahogany, Duncan Phyfe w/pad. $50. OR 0-1143. A

SEWING MACHINE, Majestic, portable, $25. DA 4-6946. A

STROLLER, twin-type, w/trays, canopy, baskets, good condition, $10. FR 9-7224. A

TELEVISION SET, Packard-Bell, 21", $50. Many other bargain basement items. EX 9-3033. A

REFRIGERATOR, Servel, perfect condition. $50. OS 6-5170. A

TUBE, Firestone, lifeguard-type, 7.60x15, $5. OS 9-1948. A

PLAY EQUIPMENT, swing set, $10. DA 4-6203. A

RANGE, gas, 40", $25. DA 9-7338. A

TRAILER, 4'x7', well-built, 16" tires, '59 plates, spare wheel, $45. PL 2-7788. A

REFRIGERATOR, Servel, 10 cu. ft., $25. OR 1-1660. A

WANTED TO BUY

WATER PUMP, for fish pond waterfall. DA 6-3282. B

FORD, model A, hardtop. Box 2301. B

DIVING EQUIPMENT, Scuba. FR 5-3894.

RUG, Brown, 10'x16'. DA 4-6203. B

BATHINETTE. FR 8-1569. B

FOR TRADE

RANGE, gas, Wedgewood, trade for gas drier or dishwasher. RI 7-7937. C

FREE (to be given away)

KITTENS, 8-wks-old. PL 4-0155. D

FOR SALE OR TRADE

REFRIGERATOR, Coldspot, 7.25 cu. ft, $50. or trade for photo equipment or tape recorder. FR 5-2758. M

RIDES WANTED

7:00 a.m. — 3:45 p.m.

MARINE & PACIFIC AVE., Manhattan Beach. Lucille Kocher, ext. 2649, FR 2-3575. 2

CANDLEWOOD & DOWNEY BLVD., Lakewood. Carolyn Kuehn, ext. 621, ME 3-8921. 2

STUDEBAKER & CARSON, Long Beach. Z. W. Detz, ext. 2236, HA 1-3361. 2

CENTURY & CRENSHAW, Inglewood. B. McDonnell, ext. 1359, PL 6-9619. 2

7:30 a.m. — 4:15 p.m.

IMPERIAL & ATLANTIC, South Gate. Carol Gold. ext. 2436, LO 9-1115. 3

8:00 a.m. — 4:45 p.m.

HARRIS & ALONDRA, Compton. Gerald Hill, ext. 1412, NE 5-0507. 5

PARAMOUNT & ORANGE, Long Beach. W. H. Covert, ext. 2281, GA 3-1363. 5

HILLCREST & SANTA ROSALIA, Los Angeles. Jean A. Carter, ext. 2063, AX 1-3245. 5

Nortron Nine In Funstival Horsehide Win

Winners list for Holidayland games during the Funstival:

Interdivisional Softball tournament—Nortronics (Hawthorne).

Rivet guess—Jackie Roberts, daughter of Jean Terrazas, Nortronics (junior).

Rivet guess—W. C. Gates, son of Mrs. M. C. Gates, Norair (senior).

Run to mama—Roger Ingraham, Norair (boys and girls 2 to 3 years old).

Playmate race—Keithie and Ronnie Terrazas, Nortronics (boys and girls 4 to 6 years old).

Mixed up shoes—Mike Menzies, Nortronics (boys 6 to 9).

Spoon and potato — Laura Bradley, Norair (girls 6 to 9).

Wheelbarrow—Jack and Charles Gesrick, Norair (boys 10 to 15).

Cracker jack—Pam Buracchio, Norair (girls 10 to 15).

Banana eating — Louis and Trudy Novak, Nortronics-Anaheim (boys and girls 16 to 20).

Egg throwing — Ursla and Jack Richards, Nortronics (husbands and wives). Ed. note: see front page photo.

Hobble — Stephanie Pierson, Northrop International (Ladies only).

Balloon hit — Moe Buracchio, Norair (men only).

NRC GOLFERS TO OJAI FOR NEXT TOURNAMENT

A tournament at Ojai (pronounced Oh-high) is next for the NRC Golf Club, it is announced by Commissioner Bill Putnam.

Day will be Sunday, September 13. Tee time is 8 a.m.

There is a limit to the number of foursomes that can be accommodated, says Bill. And the limit is 25.

Entry blanks are available at Personnel Activities office, Plant 1, and Industrial Relations offices at Plant 3 and Mariposa.

Green fee is $5 plus 50¢ prize fund.

Starting time—first come, first served.

NRC CAMPERS IN FAWNSKIN TRIP

NRC campers, fresh and relaxed from the Dark Canyon outing, now plan a trip to Fawnskin, reports Fred Brant, commissioner.

Labor Day weekend will be the time.

Check Personnel Activities for complete information.

3:45 p.m. — 12:15 a.m.

IMPERIAL & STUDEBAKER ROAD, Norwalk. Robert H. Jaksch, ext. 2221, UN 3-9560. 6

4:15 p.m. — 12:45 a.m.

PIER & PACIFIC COAST HWY, Hermosa Beach. Jerry D. Smith, ext. 1820. 8

RIDES OFFERED

7:00 a.m. — 3:45 p.m.

FIRESTONE & DOWNEY BLVD., Downey. C. E. Simpson, ext. 2225, WA 3-4847.

STUDEBAKER & CARSON, Long Beach. Z. W. Detz. ext. 2236. HA 1-3361 12

8:00 a.m. — 4:45 p.m.

PARAMOUNT & ORANGE, Long Beach. W. H. Covert, ext. 2281, GA 3-1363. 15

HILLCREST & SANTA ROSALIA, Los Angeles. Jean A. Carter, ext. 2063, AX 1-3245. 15

More Funstival Fotos - - -

FUNSTIVAL'S LIVELIEST FAMILY—Margie Brown, Norair Reproduction, fifth left counting the baby, won Disneyland gate prize at Funstival with clan of happy 17. From left, Margie's kin are George Wells, Marion Terrio, Ruth Wells, Kareen Brown—the baby, Margie, Maude Terrio, Dennis Wells, George Terrio, Dean Wells. Front: Willoween Wells, Gregory Wells, Steven Wells, Mary Ann Marengo, Carolyn Terrio, Jim Marengo and Bobby Terrio. NRC picnic VIPs, at right, are Ronn Wiggins and Dave Carney.

NRC to Hold Traditional Black Bat

NRC will stage the traditional Black Bat softball tourney in September, it is announced by Monte Halberg, commissioner.

Deadline for entries is Wednesday, September 2.

Managers are to submit a memo stating their name, organization number, zone and extension. The same information is required of the assistant manager. This, plus the team name, is to be handed in to Don Greco of Personnel Activities.

Games will be played at Lennox Playground, 6 to 10 p.m. each night.

Winning team will get an award.

The losing team will get the Black Bat to display in their area.

NORAIR FUNSTIVAL SOFTBALL TEAM—Didn't repeat their last year's win but proudly pose just the same. From left, standing are Tom White, Jack Gibilisco, Frank Rosenstiel, Greg Halberg, Monte Halberg, Tom Stinson, and Don Hester. Kneeling, left to right: Bill Green, Jack Jones, Jerry Schisser, and Dick Wolpert. Nortronics won the interdivisional three-way tourney.

BUY SAVINGS BONDS

NRC Good Time Table for September

For enrollment or information on activities listed below, call or contact Personnel Activities, Plant One, extension 2784. All clubs meet at the NRC Clubhouse unless otherwise noted.

ARCHERY, Wes Williams
Meet Wednesdays, 7:30 p.m.—movies 1st Wednesdays. Archery classes now in session.

ART CLUB, Forrest Ayrest
Meet in Annex Thursdays, 7 p.m. Models furnished by NRC.

ASTRONOMY
Meet 2nd & 4th Mondays, 7:30 p.m. Ninth lecture in series September 28.

BIBLE STUDY, Warren LaSelle
Plant I—Daily, 11:30-12:15, Tool Design Bldg.; 11-11:45, 5566 Conf. Room.
Plant II—Mondays & Thursdays, 12-12:45, Conf. Room 2.
Eng. Center—Daily, 12-12:45, Reliability Conf. Room.

BOAT CLUB, Ken Payne
Meet 1st Wednesdays, 7:30 p.m. Catalina Cruise Labor Day weekend.

BOWLING (days), Woody Howsare

BOWLING (nights), Jim Scalla
Winter leagues now forming.

BOY SCOUTS, Sid Cohan
Sea Scouts, intermediates, Cub Scouts. All Norcrafter boys welcome.

CAMERA CLUB (days), Lauren Ray
Meet 1st, 3rd & last Wednesdays, 7:30 p.m.

CAMERA CLUB (nights), John Newman
Meet 1st & 3rd Saturdays, 8 p.m.

CAMPING CLUB, Fred Brant
Meet 1st Mondays, 7:30 p.m. Outing to Fawnskin—Labor Day weekend.

CHESS CLUB, Bill Henderson

FISHING, Art Kraft

GEM & MINERAL CLUB (days), Ray Cole
Meet 2nd Wednesdays, 8 p.m. Mineralogy classes Thursdays, 7-9 p.m.

GEM & MINERAL CLUB (nights), Doyle Shook
Meet 1st Wednesdays, 1 p.m.

GOLF, Bill Putnam
Golf Town. September 13—Ojai.

GUN CLUB, Robert Raines
Meet 3rd Wednesdays, 7:30 p.m.

MIXED CHORUS, Verne White
Meet Tuesdays, 7:30 p.m.

MODEL RAILROAD, Jack Wilson
Meet in Annex Thursdays, 7-10 p.m. Visitors welcome. Need electricians, carpenters & scenic artists to help with new layout.

ORGAN CLUB, Gail Skinner

PHILATELIC CLUB, Eugene Richardson
Meet 2nd & 4th Mondays, 7 p.m.

RADIO CLUB
Meet last Thursdays, 7:30 p.m. Radio code class meets Wednesdays, 7:30 p.m. NRC's station is W6VPZ.

RIDING CLUB, Tex Stately
September 6, Double Bar H Stables—10 a.m. September 20. Meet at Clubhouse—4 p.m.

SKEET CLUB, Walt Graves
Meet alternate Saturdays Aug. 8 & 22 at Rancho Angellis Range, Main & Broadway, 10 a.m.

SKINDIVING,
Meet 3rd Mondays, 7:30 p.m.

SOFTBALL (days), Monte Halberg
League play Mondays & Wednesdays, Rosecrans Park, 7:30 p.m.; Thursdays, Lennox Park, 5:45 p.m. Softball Awards nite September 12.

SOFTBALL (nights), Bob Moncrief
League play Wednesdays, Rosecrans Park, 10:30 a.m. Awards nite September 12.

SPORTS CAR CLUB, Bill Eichelkraut
Meet 2nd Thursdays, 7:30 p.m. Slalom del Camino, September 13—Long Beach Memorial Stadium.

SQUARE DANCING, George Sanborn
Fun Level at Henry Clay Jr. Hi, 124th and Western, Fridays, 8-11 p.m.

SURF FISHING, John Pawlicki
Meet 1st Tuesdays, 7:30 p.m.

TENNIS, Raul Arredondo
Meet 1st Mondays, 7:30 p.m. Practice & instruction at El Camino Jr. College Saturdays, 10 a.m.

TOASTMASTERS 212 (days), John Walker
Meet at Cockatoo Inn Thursdays, 6:30 p.m.

TOASTMASTERS 1398 (nights), Jay Rayner
Meet at Western Ave. Country Club Thursdays, 12:15 p.m.

TOASTMASTERS, 2583 (days), Walt Brown
Meet at Paul's Club Alondra Mondays. 6:15 p.m.

TRAVEL CLUB, Howard Cornelius
Meet 4th Mondays, 7:30 p.m. Hawaiian trip April 30, 1960.

FOR THE LADIES

BOWLING, Corinne Davis
Summer leagues now rolling.

GIRL SCOUTS, Dallas Vasquez
Mariners, Intermediates, Brownies. All Norcrafter girls welcome.

KNITTING, Nina Shannon
Meet Thursdays, 7:30 p.m. — instructions each meeting.

SOFTBALL, Becky Traverse
League play Tuesdays, Harvard Playground.

TOASTMISTRESS, Marge Gates
Meet in NRC Clubhouse Board Room 1st & 3rd Thursdays, 7 p.m.

N-156F Freedom Fighter

Northrop-Norair News

Issued biweekly by Norair Division of Northrop Corporation • Wednesday, September 9, 1959

NORTHROP–NORAIR

NEWS BRIEFS

DISTINGUISHED VISITORS—In addition to Secretary Douglas (see story this page) *Major General Bruce K. Holloway*, director of Operational Requirements, Headquarters USAF, *Colonel John D. Lavelle*, Operational Requirements, secretary, USAF Weapons Board, Headquarters USAF, and *Major K. L. Christensen*, visited Norair last week for status, briefings and project tours on Boundary Layer Control, N-156F and T-38. The party was greeted by Vice-president and General Manager Dick Nolan. Vice-presidents John Alison, Customer Relations, and George Douglas, Engineering, conducted the sessions. Norair officials supporting the programs were W. E. Fellers, Morwick Ross, W. G. Stuart and G. C. Grogan.

INSPECTOR GENERAL SURVEY—Now in process is a T-38 Weapon System survey from the USAF Inspector General's office

(Continued on page 3)

Snark Wing Emblem

FAMILIAR SIGHT—New on the scene in Presque Isle, 702nd SMW emblem is already an accepted symbol.
(See Page 2 for story)

Vacation Carry-over Makes Extra Time Off Available

Company vacation benefits now make four weeks off with pay available to many Norcrafters, it has been announced by Robert R. Miller, Corporate senior vice-president.

The new policy provides one week "carry-over" privileges from one vacation year to the next. Under the provision during the "carry-over" year, 96-hour folk may take up to 136 hours; 120-hour people may take up to 160 hours.

Mr. Miller's executive bulletin states in part:

"Upon proper application and approval, hourly paid and salaried personnel can carry over unused vacation eligibility from one vacation anniversary year into the first six months of the succeeding year. If approved, one week of the vacation carried over may be taken consecutively with other earned vacation in that six months' period. Eligibility for vacation time off not used within the maximum period of 18 months from the date earned will be forfeited.

"Total vacation time off shall not exceed four consecutive weeks at any one time."

Radioplane Wins Test Project

The Radioplane Division was notified last week that General Electric's Missile and Space Vehicle Department has awarded Radioplane a $117,000 contract for the development and production of four prototype recovery systems for the Mark 3C Test Vehicle. The vehicle will undergo live firings at Wallops Island, Virginia and Eglin AFB, Florida.

Radioplane Division is also producing the complete landing system for Project Mercury, the U. S. Manned Satellite program.

Beginning of an Air Force Era

T-38 TALON—and significant event. Edwards permanent party men listen to Norair flight line foreman, Louie Weltz, left; and Captain Swart Nelson, T-38 project pilot, on airplane's fine points. In cockpit is S/Sgt. R. A. Randall, dock chief, 6516 FLM Squadron (FTR). Standing from left, civilians M. R. Inlow, flight chief; F. R. Kim, dock chief; Captain Nelson; and Al Batdorf, crew chief. S/Sgt. Randall and his men are first military maintenance experts assigned to Talon. They will take aircraft through AF acceptance, will form nucleus of many flight, hangar and field men to follow.

Secretary Douglas Visits Norair, Hears Corporate Secret Briefings

TOURS T-38, N-156F PRODUCTION

U. S. Air Force Secretary James H. Douglas, attended secret briefings on Northrop Corporation's advanced weapons and scientific projects during a Norair Division visit last week.

Host for the visit was Northrop President Thomas V. Jones. He was assisted by Dick Nolan, Norair vice-president and general manager; Dr. William F. Ballhaus, vice-president and general manager of the Nortronics Division; and M. W. Tuttle, vice-president and general manager of the Radioplane Division.

Mr. Jones outlined Norair achievements in low drag boundary layer control, explaining Company method for increasing the range and payload of large aircraft by reducing air friction drag. Northrop is the only American company which has conducted extensive research and testing in this field. W. E. Fellers, technical assistant to Norair vice-president, Engineering, aided in the presentation.

Mr. Nolan briefed the Secretary on the U. S. Air Force T-38 Talon supersonic trainer and the N-156F Freedom Fighter.

Mr. Jones reported on the Snark intercontinental guided missile which is now in service with the Strategic Air Command.

Mr. Tuttle reviewed the progress of the Q4 supersonic target drone and RP-76 rocket-powered target missile.

Dr. Ballhaus outlined Nortronics progress in developing guidance systems, including the Mark 1 stellar-monitored inertial system which guides the Snark, and LINS, a lightweight inertial navigation system which represents a breakthrough in weight reduction and guidance efficiency.

The three-hour visit ended with a tour of Norair T-38 and N-156F production lines and boundary layer control wind tunnel.

Earlier in the day, Secretary Douglas visited Hughes Aircraft Co.

SECRETARY DOUGLAS—At project conferences from foreground, Norair Vice-president and General Manager Dick Nolan; Brig. General Wm. T. Seawell, executive assistant to the Secretary, USAF: Robert R. Miller, Northrop Corporation senior vice-president; Air Force Secretary James H. Douglas; Northrop President Thomas V. Jones; Colonel Harold T. Morris, Northrop Air Force plant representative.

Retirement Statements This Week

Annual Retirement Statement cards for the fiscal year 1958-59 will be distributed to all Norcrafters with the weekly paychecks, September 11, it is an-

(Continued on page 2)

NRC to Bring Dodger, Pirate Men

JOHN B. CLARK TO RECOUNT NRC BEGINNINGS AND HISTORIC EVENTS

The annual Northrop Recreation Club Softball Awards night will be held in the Hawthorne NRC Clubhouse on Saturday evening, September 12, at 8 p.m., it has been announced. The event is being presented to honor Norair and Nortronics-Hawthorne diamond stars who will be awarded team and individual trophies.

An outstanding program of entertainment has been arranged according to Monte Halberg and Bob Moncrief, Norair Softball commissioners.

John B. Clark, Norair director, Industrial Relations, and the man who established the framework of the NRC and Norair sports activities, will be Company speaker reporting on the steady advances the club has shown throughout the years.

Also A. E. Patterson, executive of the Los Angeles Dodgers will share the spotlight with Ross "Rosey" Gilhousen, Pittsburgh Pirate scout, oldtime Norcrafter and Norair News baseball writer in the days of World War II. In addition to the speakers, a film, "Baseball Highlights", will be shown. This film includes scenes from the careers of baseball's immortals, Babe Ruth, Ty Cobb, Lou Gehrig, and Dizzy Dean.

Norair and Nortronics-Hawthorne softballers, their families and just plain "fans" are cordially invited to attend. Refreshments will be served. Admission is free.

Dutch Test Pilot Flies N-156F at Edwards AFB

The unprecedented development of a modern fighter plane expressly designed for use by all the Free World nations reached a significant milestone last week when a Royal Netherlands Air Force pilot became the first allied airman to fly the new N-156F Freedom Fighter.

The flight was made by Captain A. J. Borgstein, Dutch test pilot who visited the Air Force Flight Test Center here specifically to fly the Northrop-built aircraft — a fighter particularly designed for his own RNAF and other allied air forces.

The Freedom Fighter's role as an international weapon system will be further demonstrated next month when General Minoru Genda, Chief of Staff of the Japanese Air Self Defense Force, flies the aircraft as part of his evaluation program to determine what role it may play in Japan's air defense units.

The General obtained a spectator's view of the N-156F recently when he made a ground inspection of the aircraft at Northrop's facilities here and then flew in a chase plane while the fighter made a test flight.

Representatives of several other allied air forces, both in the European and Pacific areas, are preparing to make indoctrination flights in the lightweight, multipurpose fighter which is the newest combat aircraft in the Free World arsenal.

In its first mission with an al-

(Continued on Page 4)

Tropo Net to Be Built by Page for AF

Page Communications Engineers, Inc., has been awarded a $10 million contract by the U. S. Air Force to design and build a multichannel, tropospheric-scatter, telephone, teletype and data communications network linking the United Kingdom, Spain, and Morocco. The firm's pioneering achievements in advanced communications, and its experience in more than 30 foreign countries are credited with Page's selection.

The system will incorporate the latest advances in tropospheric-scatter techniques.

The term "troposcatter" refers to this propagation technique of beaming radio signals toward the troposphere and stratosphere, where turbulence, thermal differences, and other influences in the atmosphere cause signals to be "scattered" in such a way that a far-distant sensitive receiving system can pick them up with great reliability and clarity.

ART PEARSON IN LOGISTICS TALK

Art Pearson, Norair Materiel, recently spoke to the School of Logistics, Air Force Institute of Technology, on the subject "Evaluating Purchasing Performance."

The talk was given at the Base Procurement Seminar.

Selected to Serve

Ohlinger in Computer Work

Lee Ohlinger, chief, Norair Computing and Datamation Center, has been selected to serve in both the Western Simulation Council and the AIEE computer work.

He has been elected to the Steering Committee of the Western Simulation Council (which was hosted by Norair in January 1959) an organization comprising all of the analog computer users in the west coast area.

Mr. Ohlinger has also been selected to serve on the new AIEE Computer Sub-committee on application of electronic computers to engineering and scientific analysis, design, and simulation both digital and analog computers, specifically their technical application.

He is a pioneer in computing and datamation and has been instrumental in Northrop achieving an outstanding position in the field. He is also known for his pioneering work in atomic energy. He has frequently participated as Northrop's representative in cooperative programs between industry and the Los Angeles City Schools, bringing to them information in both the fields of atomic energy and of computing and datamation.

Snark Wing Insignia Explained

Selection of an insignia for a military activity is a solemn and well considered thing. The symbolism of the mission and dedication of duty is expressed in heraldic emblazonment with meanings deeply a part of the culture of man.

The Norair News reprints the official SAC wording that establishes the insignia for the 702d Strategic Missile (Snark) Wing.

"The insignia of the 702d Strategic Missile Wing has been designed to exemplify the modern space age and employment of our tactical Snark intercontinental missile by a military unit steeped in the history and prestige of the military service since the earliest days of knighthood.

"Significance and theme of the insignia:

"The division of the upper and lower half of the 702d Strategic Missile Wing insignia is the northern horizon. The upper half of the insignia is dark blue, representing a void, space, darkness, mystery, the enemy. The abstract missile represents the tactical weapon. The single star is the North Star, or the guiding light of faith and hope in the dark void of mystery and fear. It also represents, in a practical aspect, the stellar guidance of the Snark missile. The silver sword is a pure force indicative of ancient knighthood, emanating from the powerful fist and forearm of an individual — each person who is associated with the unit.

"The pale blue lower half is a peaceful, calm, homeland with white arcs representing lines of force from an individual expanding through organization to an infinite application."

STAN GUEST TO TEACH AUDITING

Stan Guest, chief, Norair Internal Audit, has been made a faculty member of UCLA Extension.

Mr. Guest will serve as instructor in all phases of internal audit practices. His first class due to get under way September 22, will be held at the UCLA facility, Eighth and Hill Streets, downtown Los Angeles.

Mr. Guest, seven-year Norcrafter in the Finance Department, holds a CPA certificate in the states of New York and Massachusetts. He has 30 years experience in financial matters.

IAS TO PRESENT SCIENCE MEET

The Institute of Aeronautical Sciences will present a "Frontiers of Science and Engineering" meeting, September 16 and 17, it has been announced. The sessions will be held at Royce Hall, UCLA.

Subject under discussion will be the progress which eminent men foresee in key areas of science and engineering.

Norcrafters wishing to attend should contact Charley Eyres, Technical Presentation coordinator, extension 1839.

What's the Answer?

Do you have a question? The Norair News *will welcome questions on any subject of common interest and will get the correct answer from the people who know. All questions will be answered, either through the column in the* News *or by memo or telephone call to the requester when the inquiry lacks sufficient common interest for all Norcrafters.*

Queries are to be directed to the Editor, Norair News, *organization 1320, zone 65. Inquiries may be signed or not, as you wish.*

Do You Have A Question? Then Send In This Form

Editor, Norair News

Zone 65.....

.....

.....

.....

Signed*.....

Organization.....

*Signing of question is optional.

Norcrafters To Play Top Roles in SAE Meeting

Norcrafters will play a prominent part in the upcoming Society of Automotive Engineers' National Aeronautic meeting, October 5 to 9.

Twenty-five men from various elements of the Company will participate. The meeting, entitled "Missiles and Aircraft", will be held at the Ambassador Hotel in Los Angeles.

Leading Norcrafters participating:

Thomas V. Jones, Northrop Corporation president, toastmaster for Thursday luncheon.

Norair men, George Douglas, vice-president, Engineering, Planning Committee for Aero meeting; John Van Hamersveld, general supervisor, Design Support branch, Forum Executive Committee member.

Nortronics men, Dr. William Ballhaus, vice-president and general manager, Nortronics, general chairman of the Aero meeting. Paul Jacobs, director, Manufacturing, member of the Forum Executive Committee.

Norcrafters participating in the Manufacturing forum and their topic areas:

Norair men, P. T. Nelson, Missile Support Equipment; D. N. Petersen, Control of Manufacturing Costs; D. D. Warner, chairman, High Temperature Sandwich Construction; W. F. Roberts, secretary, High Temperature Sandwich Construction; Willard Lindstrand, Facilities Planning and Maintenance of New Equipment. Nortronics men, M. E. Griffey, chairman, Materials Handling; H. S. Cooper, secretary, Materials Handling; W. H. White, Optics in Production; David Hill, Electronic Production.

Norcrafters participating in the Aeronautic forum and their topic areas:

Norair men, L. M. Christensen, High Temperature Materials; Barney Gaiennie, chairman, High Temperature Sandwich Construction; R. W. Mustain, Shock and Vibration I; B. B. Richardson, Missile and Drone System Reliability; G. N. Mangurian, chairman, Aircraft Structures; K. E. Kuschell and W. R. Roser, Aircraft Structures; G. M. Beller, Missile and Drone Equipment; J. L. Chinn, Fatigue of Aircraft Structures. Nortronics men, F. B. Safford, chairman, Shock and Vibration II; R. F. Miller, Supersonic Transports.

A dinner-dance at the Cocoanut Grove, Friday evening, October 9, at 8 p.m., concludes the business of this session.

Retirement

(Continued from Page 1)

nounced by Irving Roth, Corporate vice-president, Finance.

Variable units for the past fiscal year will be effected by the current unit value of $1.-11306. This value of the unit as well as the conversion of an additional 20 per cent of convertible past service benefits for those who elected this option will be reflected in the estimated monthly retirement income at age 65, also to be shown on the card.

Persons interested in estimating total retirement income should note that no one retiring within the next few years can qualify for the maximum Social Security benefit of $127 per month. For such persons the maximum will be between $116 and $127, the exact amount depending on the number of months subsequent to January 1, 1959, for which taxes on earnings at the new rate of $400 per month have been reported to Social Security.

Northrop-Norair News

VOL. 17 No. 24

1001 E. Broadway, Hawthorne, Calif.

A NORTHROP CORPORATION PUBLICATION
Published every other Wednesday
PUBLIC RELATIONS
NORAIR DIVISION

CHARLES BARR, Director

CHARLES BRADFORD, Editor

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SENIORITY AT NORAIR

A NORCRAFTER RIGHT WITH HIGH BENEFITS

What is the Norair seniority policy? How is it applied? What are the benefits?

Following a discussion on Norair Division seniority with Labor Relations Chief, Frank R. Smith, your Editor came away with the opinion that seniority is a Norcrafter right which offers substantial benefit and security, and a right which is closely observed by Industrial Relations in the interest of every Norcrafter.

Basically, seniority represents the individual's period of continuous service with the Company, including time spent during layoff of not more than 24 months.

SENIORITY FACTOR

Seniority applies to numerous rights and benefits. It affects the extent of annual vacation, and the eligibility for retirement benefits. It is a factor in determining the order of layoff, the order of recall from layoff, and, too, a factor in promotions or demotions.

When it is necessary to reduce the work forces in a job occupation, hourly-rated personnel are selected for layoff according to the extent of their Company seniority within their job classification in the organizational segment to which they are permanently assigned. Their right of recall, however, will be to the job classification which they held at the time of layoff, and into any organizational segment of the entire section from which they were laid off, wherein such job classification is required.

SENIORITY ORDER

When downgrading in hourly classifications is permitted in lieu of layoff during a particular period of reduction, such downgrading shall be conducted in seniority order among those whose jobs would be affected in a particular classification within the organizational segment concerned.

The seniority of salaried personnel shall be recognized at the time of layoff, recall, promotion, demotion, except where there is concrete evidence that the ability, experience, educational background and performance of one individual is substantially different from that of another. This difference would be evaluated in the light of Company needs.

PROBATIONARY

As can be easily understood, personnel who are still within their probationary period do not have seniority.

Having heard, in the past, different interpretations of the use of the term "probationary personnel", your Editor asked for a clarification. Mr. Smith advised that there are two probationary situations. First, he mentioned the case of the newly-hired employee. All such employees are on probation for the first ninety (90) days of employment during which time they do not possess seniority, and do not possess the normal employee benefits such as group insurance, leave of absence privileges, etc. However, after newly - hired personnel have passed their ninetieth calendar day from date of hire, their seniority and accrual of benefits date back retroactively to the date of hire.

Second, the other probationary situation occurs at the time an employee is transferred. In this instance, a sixty-day probationary period exists if such transfer is to another organizational segment and to a different job classification other than a downgrade in the same line of progression. If a person is transferred to another organizational segment, and he retains the same classification he has previously held or in which he has previously experienced work, or he is given a lower classification in the same line of progression, he will have immediate seniority within the new organizational segment.

TRANSFER

Should those persons who are transferred, while on probation for sixty (60) days, be found not to possess the qualifications required, or be faced with a layoff in the organization, they shall be returned to their former job classifications and organizational segment providing they have seniority greater than any one individual holding the same job classification in the organizational segment to which they are returning. If they do not have greater seniority than any one individual as stated, they shall, for record purposes, be returned and immediately laid off with rights of recall to their former classification in seniority order.

Another perennial question is that of the rights relative to shift transfers. Management must retain the right to maintain a balanced and qualified work force by shift. When these requirements are met and with all factors being substantially equal, the most senior employee, by classification by organizational segment shall receive preference in a choice of shifts. Such policy, however, is restricted to the filling of shift vacancies within the transfer applicants' particular organizational segment.

CAN BE LOST

Seniority may be lost in several different ways, and as management is desirous of seeing that all personnel retain their seniority rights, the following information is offered in the hope that it will help prevent individuals from inadvertently losing their seniority.

Seniority shall be lost:

A. When the employee quits or is discharged.

B. When a layoff, or leave of absence lasts more than 24 continuous months.

C. If, after a layoff, a recall notice is sent to the employee by U.S. mail or telegram at the last address filed by him in the Personnel Office, and the employee fails within four (4) working days of the date the notice was sent, either to report for work or to deliver to the Company a reasonable excuse for not reporting.

D. If, while on layoff, the employee fails to notify the Company during each ninety (90) day period following layoff of his desire to remain on recall together with his current mailing address. Such notification may be by registered mail, telegram or reporting in person to the Personnel Office.

E. If the employee fails to return to work following the expiration of an authorized leave of absence, sick leave or vacation.

F. If an employee retires from the Company.

Both the Norair Personnel group and the Norair Labor Relations group maintain constant surveillance of the seniority rosters to ensure compliance with the seniority rights of each individual who may be affected. Current seniority records for each organizational segment are kept on file by the Personnel group and are available to all personnel who have questions relative to their own seniority status. As examples of the protection such surveillance provides all personnel, Mr. Smith cited the following cases:

LABOR RELATIONS

If an organization were faced with having to downgrade several hourly persons and, due to a misunderstanding, used seniority time in the classification as the seniority factor in selecting personnel for such downgrading, this error would have been detected by Labor Relations. An explanation would have been given to those persons affected and their supervisors, and a correction would be made based upon the fact that seniority is the individual's continuous service with the Company, not merely in his classification. This action by Labor Relations would have resulted in the reinstatement of those who were erroneously downgraded.

Although seniority order is watched very closely by supervision when they are faced with having to lay off or downgrade personnel within their organization, there have been a few instances in the past whereby the Personnel and Labor Relations groups have detected discrepancies which have resulted in reinstatement of persons adversely affected. These discrepancies, in general, resulted from errors in seniority dates, misinterpretation of the probationary period policy following transfer, and the erroneous use of the date on which an individual received his current classification rather than the Company seniority date. Due to the fact that supervision throughout the Company is concerned with numerous matters in addition to those of a personnel nature, management has directed Industrial Relations to assist supervision in ensuring that each individual's rights and benefits will be protected.

In closing our conversation, Mr. Smith left me with a statement which is food for thought for all of us. He stated that seniority is an earned right which must be protected in the interest of both the employee and the Company, but as for job security, seniority is only a part of that total picture—that an efficient, competitive operation is the best guarantee of job security, and that we, as individuals, should recognize no substitute for quality performance on the job.

It's a Northrop Tradition

The Christmas holiday——.

What's wrong with a week off at Christmas?

"Nothing!" is the emphatic and enthusiastic shout of every Norcrafter.

The Christmas holiday is a Norair first all the way.

It came about in 1946. Industry was in the process of revising upward the number of hours granted personnel in vacation benefits. The Company decided to do a startling thing, an unheard of thing in our business.

Why not take five of the ten yearly individual holidays, including New Year and Christmas, and make it a week off at Christmas?

This, in addition to the regular vacation, plus Memorial Day, Fourth of July, Labor Day, Thanksgiving, and some sick leave privileges. (A "floating" holiday has recently been added as another benefit for our personnel.)

How about meeting our production schedules? How will other companies compare this to their benefits? Will this be a popular fringe benefit with our personnel? There were many dubious questions.

As when anything new and different is tried, there are those who say it won't work. But the Northrop Christmas holiday is now 14 years old (15 years next December) and since the very beginning, Company management has considered this enlightened approach to holiday and vacation benefits one of the finest human relations ideas ever suggested.

It started as an idea. It became a custom.

It is now a tradition.

NEWS BRIEFS

(Continued from Page 1)

and under the direction of Brigadier General Edward B. Gallant, director of Procurement Inspection, 1002nd I. G. group, TIG, Norton Air Force Base. Team members are Colonel J. W. Olfson, chief, Weapon System Phasing Division, Directorate of Procurement Inspection; Lieutenant Colonel Linn E. Mann, team chief, Engine Development, Maintenance and Testing; Lieutenant Colonel George C. McCleary, Plans, Programs and Funding; Major Philip A. Dickey, Jr., Personnel, Training and Development; Major Richard E. Vaile, Production and Procurement officer, Weapon System Phasing Division; and Major John F. Taylor, Procurement, Production and Logistics. Areas to be surveyed are Plans, programs, funding, development, testing, procurement, production, logistics, maintenance, personnel and training. Survey, which is USAF-required of all new weapon systems will evaluate conditions which may affect the timely and economical introduction of the T-38 into the USAF inventory and its capability to perform the assigned mission . . . The team visited Norair 30 August-2 September. Other stations and facilities on the itinerary: AFFTC Edwards Air Force Base; Headquarters Air Training Command, Randolph AFB; Headquarters OCAMA, Tinker AFB, Oklahoma; Headquarters MAAMA, Olmsted AFB, Pennsylvania; General Electric Company, West Lynn, Massachusetts; Headquarters USAF, Washington, D.C.; with final critique at WSPO, Wright-Patterson AFB, Ohio. Complete survey will require four weeks.

TOOLING SUB—Loft and template work is being performed at various times by Norair for the North American B-70 and F-108, it is announced by Bob Lloyd, vice-president, Manufacturing. Although there are limited manhours in the work so far, growth factors indicate likelihood of increased loads as the two airplanes progress.

ATC MEETING—Al Morgan, vice-president, Contracts and Service, attended the recent two-day ATC-Contractor meeting on ATC's technical training process at Randolph Air Force Base. He was accompanied by Lee Smith, director, Customer Service and Frank Mathes, chief, Field Service and Training. Welcome was by Major General C. A. Brandt, vice-commander, ATC. Brigadier General J. D. Page, deputy chief of Staff, Technical Training, ATC, outlined the command's mission and organization. Agenda covered ATC training philosophy, quality controls of training, and administration and support of training. Twenty major defense manufacturers participated . . . ATC is presenting a series of such meetings to update contractor understanding of AF training concepts and policies. "Such meetings are excellent communications," stated Mr. Morgan. "The ATC is to be complimented on their fine approach to a complete contractor perception of their vast command . . . The ATC operates 2800 aircraft and flies 20 per cent of the flight hours of the entire USAF." . . . The meeting held added interest for Norair in that our Talon training, under Norair instructors, for Air Force supervisors and planners will get under way here at the plant in mid-October. Pilot ground school at Hawthorne and many other phases of technical and maintenance training to be held at Amarillo Technical Training Center, also under Norair instructors, are scheduled to begin in mid-January, 1960. Training go-ahead is expected within the next few weeks.

DIVIDEND—Northrop Corporation common stock will pay quarterly dividend of 40 cents a share on 22 September, 1959, to shareholders of record 8 September. Action was taken by board of directors, 26 August.

BBSF Classified Ads

Items advertised in "For Sale" and "For Sale or Trade" categories are limited to a maximum of $50. Price must be stated.

Ads for agencies, commercial enterprises and private businesses are not accepted.

Deadline is noon Monday, nine days before publication.

FOR SALE

CAR COOLER, Wright w/ice chest, 12V, for late model cars; transformer to convert cooler for home use, $40. GA 3-1363. A

REFRIGERATOR, Admiral, 7.5 cu. ft., $45. PL 3-7484. A

BABY FURNITURE, crib, natural birch, w/ Kantwet mattress; playpen; feeding table w/adjustable legs, $50. FR 5-5238.

RANGE, gas, Western Holly, w/top griddle, clock, oven control, thermostat, $50. PL 6-0684. A

PLAY EQUIPMENT, jumping horse, 1-5-yr-old, $25. FR 8-2609. A

AUTOMOBILE, Buick, 1948, convertible Dynaflow, $50. OS 5-8104. A

BABY EQUIPMENT, crib, Babyline, w/ Kantwet mattress; playpen; car bed; car seat, good condition, $35. FR 6-4328. A

DINETTE SET, chrome, 30"x42" table w/ leaf, 4 chairs, very good condition, $30. DA 3-4628. A

STOVE, gas, apartment size, $25. OR 7-3757. A

TV SET, Zenith, console, w/phono, AM-FM, good condition, $25. UN 3-5196. A

SOFA, Hide-A-Bed, w/innerspring mattress, good condition, $50. FR 9-2135. A

WASHING MACHINE, Dextor, twin-tub, wringer-type, good condition, $50. OS 5-2820. A

BABY EQUIPMENT, hi-chair, playpen, car bed, car seat, walker, training chair, $25. FR 6-5392. A

RECORDS, 12", 78 rpm, includes approx. 15 classical & semi-classical albums, plus approx. 35 loose 12" & 10", Brahms, Beethoven, Tchaikowsky, Puccini, Ravel, Rachmaninoff, $15. GR 2-6069. A

PAMPHLETS, 1-11, detail Aircraft Structural Analysis, bound, prepared by Glen L. Martin Co., Engineering Educational program, $3. Box 2401. A

STARRETT, combination square, hardened head, 2 blades, never used, $12. AX 3-0036. A

BED, ¾ size, innerspring mattress, box spring, adjustable bed frame, $20. PL 5-9075. A

RANGE, GE, electric, perfect condition, $50. GA 7-5674. A

REFRIGERATOR, 7.2 cu. ft., $25. FR 8-1026. A

KITTENS, Siamese, $10. FR 6-1636. A

WINDOW SHUTTERS, outside - type, 18"x56", $4. GR 7-1539. A

RANGE, Kenmore, gas, white, 4 burner, center warmer, oven, broiler, storage space, $35. PL 4-7618. A

PHONOGRAPH, GE, pre-amp, magnetic cartridge, w/dual sapphire stylus, $9. OR 2-1731. A

LETTERING SET, Leroy, $50. DA 9-5986.

BICYCLE, girl's, 20", $20. OS 5-4156. A

WANTED TO BUY

TARP, for 21' cabin cruiser. OS 9-1698.

MOTOR, 3 or 5 hp, outboard-type. FR 5-8778. B

CEMENT MIXER, gas, electric or without engine. FR 6-0648. B

FOR TRADE

RANGE, GE, double oven, automatic, trade for Fiberglas boat. PL 6-8095. C

FREE (to be given away)

BOTTLES, ⅕ gallon size. FR 2-4318. D

LOST

WRISTWATCH, Timex, automatic wind, w/expansion band, left on desk in Dept. 5568, Sub-assembly area, Aft Fuselage & Tail Cone Section, Aug. 27, 7 a.m: ME 3-0849. J

RIDES WANTED

7 a.m. — 3:45 p.m.

PIER & HERMOSA, Hermosa Beach. Margaret E. Tisoncik, ext. 2388. 2-3

BALL RD. & KNOTT, Anaheim. Mack W. St. Clair, ext. 1235. 2

7:30 a.m. — 4:15 p.m.

WESTMINSTER & HWY. 39, Westminster. Edith Williams, ext. 2234, NE 8-2913. 3

NRC Kegling Call Issued For Teams

Call for Norcrafter bowlers, men and women, is issued by Commissioners Woody Howsare and Jim Scalla, men—days and nights, and Corinne Davis, ladies.

Leagues are now forming and the season plans depend on number of people participating.

Check in at Personnel Activities for information regarding projected leagues, alleys, events, time of day and night.

Open Season Declared on T-M Recruits

There is no closed season on toastmaster recruits. So it seems.

NRC Toastmasters 212 which meets every Thursday at the Cockatoo reports the initiation and new membership of five Norcrafters. Harold Eide, Hours Control; Paul Nelson, Norair Support Equipment and new Norcrafter Chet Berg, Quality Control Engineering, among others.

Chet writes revealingly to the Norair News about the club goings on. "The very interesting and educational meetings held by 212, are open to all Norcrafters, who upon attending, will be greeted by the Toastmasters and introduced around. The meetings are highlighted by humorous table topics discussion, speakers for after dinner, a short interesting business meeting, and always a few good jokes. All men who attend three such meetings automatically become eligible for membership. Initiation proceedings are colorful and impressive.

"Northrop Toastmasters Club 212 extends a warm invitation to all Norcrafters to come over to the Cockatoo on Thursday night and attend one of our meetings."

RIDES WANTED

7:30 a.m. — 4:15 p.m.

IMPERIAL & ATLANTIC, South Gate. Carol Gold, ext. 2436, LO 9-1115. 3

PIER & HERMOSA, Hermosa Beach. Margaret E. Tisoncik, ext. 2388. 2-3

8 a.m. — 4:45 p.m.

SLAUSON & VAN NESS, Los Angeles. P. G. Odabashian, ext. 474, AX 4-9141. 5

CONDON & 147th, Lawndale. P. Maggard, ext. 1630, OS 6-3090. 5

IMPERIAL & PARAMOUNT, Downey. June Henry, ext. 2151, WA 3-1032. 5

KNOTT & CRESCENT, Buena Park. R. A. Richards, ext. 1602, JA 7-7239. 5

PIONEER & 166th, Norwalk. Ivan Sawo-rotnow, ext. 1678. 5

8 a.m. — 4:45 p.m.

REDONDO BEACH BLVD. & GREEN LANE, Redondo Beach. Eleanor Markert, ext. 1372, FR 6-3352. 5

PACIFIC & 19th, Manhattan Beach. R. E. Knowles, ext. 1415, FR 2-4318. 5

DENKER & 83rd, Los Angeles. Dorothy L. Minnich, ext. 1915. PL 9-9775. 5

RIDES OFFERED

7:30 a.m. — 4:15 p.m.

SPADRA ROAD & ORANGETHORPE, Fullerton. Walt Keen, ext. 1905, LA 5-2254. 13

8 a.m. — 4:45 p.m.

PACIFIC & 19th, Manhattan Beach. R. E. Knowles, ext. 1415, FR 2-4318. 15

PIONEER & 166th, Norwalk. Ivan Sawo-rotnow, ext. 1678. 15

KNOTT & CRESCENT, Buena Park. R. A. Richards, ext. 1602, JA 7-7239. 15

3:45 p.m. — 12:15 a.m.

IMPERIAL HWY. & STUDEBAKER ROAD, Norwalk. R. H. Jaksch, ext. 2221, UN 3-9560. 16

Your Recreation Representatives

NEWLY ELECTED—Northrop Recreation Club Board, newly elected, holds first meeting at Nortronics System Support, Anaheim. From left, standing: Dick Cotroneo, representative-at-large, Radioplane; Burr Williams, Industrial Relations representative, Nortronics; Harry Clark, Industrial Relations representative, Norair; Charles G. Boyle, Northrop Recreation Club administrator; Gene Bogess, immediate past prexy, Norair; Chuck Thomas, Industrial Relations representative, Radioplane. Front: Ash Dunning, representative-at-large, Nortronics-Hawthorne, NRC sergeant-at-arms; Ronn Wiggins, vice-president, Norair, NRC vice-president; Ralph "Doc" Cook, representative-at-large, Norair, NRC secretary; Sid Samuels, vice-president, Nortronics-Anaheim, NRC treasurer. President Fritzel, Radioplane, was on assignment at time of photograph.

CANDLEPIN TOURNEY AT P-1

Test Pilot—

(Continued from Page 2)

lied pilot—Captain Borgstein—at the controls, the N-156F was put through a wide range of basic maneuvers, among them low- and high-speed flight, stalls, rudder kicks, aileron rolls and dives. Concluding his 50-minute flight, Captain Borgstein verified the N-156F's extremely short landing roll and further emphasized its short runway capability by effectively employing the plane's drogue chute.

During a post-flight briefing, Captain Borgstein said he was extremely impressed with the fighter's excellent handling characteristics at various speeds.

Its extreme maneuverability, low-speed landing capability and wide-field visibility, it appeared, were exceptional in comparison to other operational aircraft.

ANDERSON REPORTS SPIRITED PLAY AT MAINE SAC SNARK BASE

Word comes from Presque Isle via Gaylord Anderson, Norair general supervisor, Field Operations, of the spirited finish to very good bowling series by the Candlepin League.

NRC trophy winners:

Winning Team

Gaylord Anderson, Norair Field Service; William T. Loomis, Norair Field Service; Lt. Col. Jack Page, 702nd Strategic Missile Wing; Capt. Dan Hyde, 702nd Strategic Missile Wing.

Men's Hi Game

William T. Loomis, Norair Field Service.

Men's Hi Series

Don Smith, Norair Field Service.

Women's Hi Game

Mrs. Don Smith, Norair Field Service.

Women's Hi Series

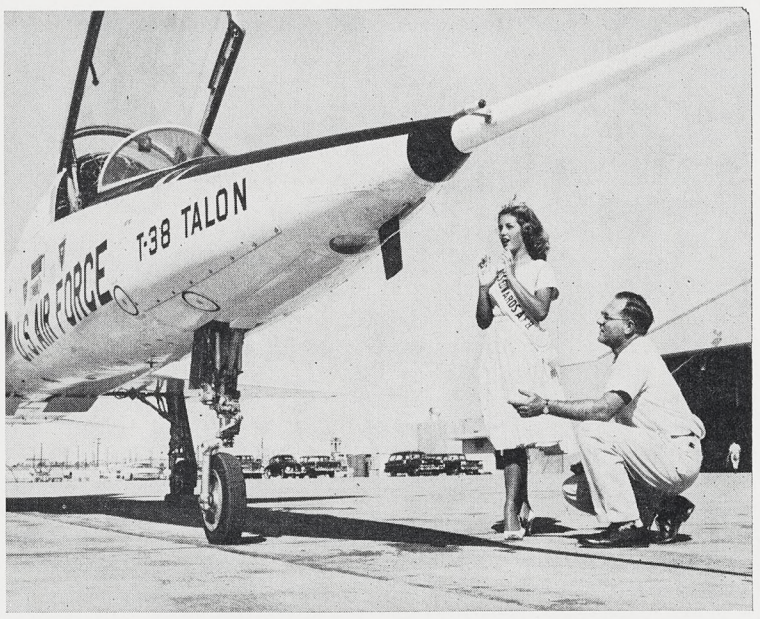
Mrs. Jerry Maruska, Missile Field Test.

"Everyone up here thoroughly enjoyed this league," writes Gaylord. "Especially since recreational opportunities of this sort are quite limited in this area. We certainly appreciate the support Personnel Activities has given us."

ORGAN CONCERT AT ELKS CLUB

An evening of music is in store for all Norcrafters. Gail Skinner, NRC Organ Club commissioner, announces that the Club meeting, September 22, at the Elks Club, 317 South La Brea, Inglewood, will feature well-known guest Organist Chuck Bagley. Mr. Bagley recently completed a two-year engagement at Chalon's and is currently playing at the Eleda on Crenshaw. Mr. Bagley "Chuck", provides spice to his concerts through a series of clown acts which never fail to relax and amuse.

Time of the concert is 8 p.m.



MISS EDWARDS—Joan Rochelle, Miss Edwards Air Force Base, poses with T-38 at Norair hangar. Frank Harrison, crew chief, has pleasant assignment of explaining Talon supersonic space talents to the very pretty visitor.

"BIG FISHERMAN" REDUCED RATES TO NORCRAFTERS

Special rate reduced "family day" performance of the "Big Fisherman" has been announced by Personnel Activities.

Road show engagement of the famous Lloyd C. Douglas novel is under way at the New Vogue theatre, 6675 Hollywood Boulevard.

Reduced rate days for Norcrafters are Saturday, September 12, 19, 26; Saturday, October 10, 17, 24, 31; and Saturday, November 14, 21, and 28. Show time is 10 a.m.

The rate will be $1.25. Regular prices are $1.80 to $2.75.

Ticket order forms are at Personnel Activities.

N-156F Freedom Fighter

Northrop-Norair News

Issued biweekly by Norair Division of Northrop Corporation • Wednesday, September 23, 1959

NORTHROP–NORAIR

NEWS BRIEFS

MANAGEMENT SESSIONS — Norair Management Planning Council today concludes a two-a-day series of high-level marketing conferences. . . . Meetings began 14 September and covered entire spectrum of Norair planning with emphasis on research and development and marketing phases. . . . Total Division effort is to be integrated in support of objectives. Agenda covered competitive environment; manned aircraft business potential; missiles and astronautics; subcontract sales and special projects; short, intermediate and long range plans; summary and direction of regular planning.

FROM EUROPE—W. E. Gasich, director, Weapon System Development Engineering, recently returned from a visit to Europe where he was a member of the U.S. Air Force Scientific Advisory Board. Team was made up of military personnel, scientific and industry engineering members . . . The purpose of the visit was to discuss technological developments with military members of SHAPE as well as with scientists and engineers from NATO countries.

(Continued on Page 3)

Norcrafters Honored

IN APPRECIATION—"D. D." Berry, secretary to Northrop-International Vice-president and General Manager Gil Nettleton, receives handsome Night Fighter Association trophy from Gwynn Robinson, manager, Customer Relations, Northrop-International and member of NFA board of directors. The award was presented during Air Force Association convention at Miami. Miss Berry has been executive secretary for NFA since founding. The trophy was voted her in appreciation of many hours of unstinting work in behalf of the organization.

PUBLIC SERVICE AWARD — In Sacramento, Governor Edmund G. Brown, right, presents California State Fair and Exposition silver medal to Charles Bradford, editor, Norair News for "A Tower in the Plain" series of articles on the Strategic Air Command and the Snark. The articles which appeared in the News last year were termed "a highly significant and revealing insight into the features of America's newest defense weapon and the lives of 'missileairmen' who are charged with the safety of our homeland". Lou Meyer, Norair photographer on the story assignment, was also present for the ceremonies.

NORAIR HONEYCOMB PROCESS CUTS MANUFACTURING COSTS

CHEMICAL MILLING DEVELOPMENT FROM R&D

Successful development of a method for chemical milling of honyecomb has been announced jointly by the Chem-Mill Division of Turco Products, Inc., and Norair Division.

The process is an accomplishment of Norair's constant search for improved aero/space technical and manufacturing methods. Research and development work in Norair labs, which are engaged in many similar advanced projects, brought the process to perfection.

The invention of the honeycomb chemical milling process is credited to Norcrafter Eldon Bowman, research assistant.

The process promises potential savings of millions of dollars in aircraft and missile production costs.

The new honeycomb stabilizing process is expected to broaden the use of honeycomb in airframe construction by permitting the designer greater latitude in utilization of honeycomb sandwich construction.

Metal honeycomb closely resembles the wax kind made by bees. Its hexagonal cells are formed of thin metal foil. When the core is bonded between two thin metal skins, it forms a high strength, lightweight "sandwich" which is used extensively in aircraft and missiles.

Shaping the honeycomb face to fit contours and recessed areas in the sandwich skins has been a major problem for airframe producers. Costly and time-consuming methods of crushing, sawing and machining unsupported honeycomb are used at present. These methods do not always produce complex contours as precisely and reliably as desired. In fact, some contours are almost impossible to produce with present methods. The Norair-developed honeycomb stabilizing process makes it possible to produce these contours by chemical milling.

The new process is applicable to aluminum and steel honeycomb core.

The process is being refined and adapted for widespread production use by the Chem-Mill

(Continued on Page 2)

Scorpion Squadron Awarded Hughes Achievement Trophy

The Air Force F-89 54th Fighter Interceptor Squadron, has been awarded the Hughes achievement award for the past year, it has been announced.

The award was presented to Lieutenant Colonel Ernest B. Nuckols, jr., Squadron commanding officer, at the Night Fighter Association annual convention, Miami Beach, Florida.

General Laurence Kuter, commander-in-chief, NORAD, made the presentation.

The Hughes achievement award, given each year on a worldwide basis to the best interceptor squadron in the Air Force, is based on 12 months performance and for a squadron to be eligible it must have been in active air defense operations for the entire time—July 1 to July 1.

Forty points are awarded for qualifications of aircrews in the arms—missiles, rockets and other weapons—computed on the percentage of those qualified against the total aircrews available.

Twenty-five points are given for successful profile missions—

(Continued on Page 2)

M-C MEMBERS TO TOUR CBS THIS NEXT SATURDAY

Another Management Club tour of Columbia Broadcasting System's Television City studio will take place Saturday, September 26. First tour, and highly successful, was last Saturday.

Time of the visit will be 2:15 p.m., advises Lou Bednarchik, M-C Publicity chairman.

Reservation blanks are available from Alex Morrison, M-C Educational chairman, extension 3-377.

All Club members and their families are invited.

NRC ANNOUNCES JUNIOR HUNTER SAFETY COURSE

The NRC Gun Club, Commissioner Bob Raines, will conduct an eight-week hunter safety course, it has been announced.

The course, under the auspices of the National Rifle Association and sponsored by the California Department of Fish and Game, will get underway October 6. Hours will be from 7 to 9 p.m. There will be a 50¢ charge a night. Location is the NRC Clubhouse.

Northrop juniors, ages 12-16 can qualify for hunting licenses through the course. In fact, without the certificate of hunter safety course completion, hunting licenses can not be granted.

All Norcrafters are invited, however.

At the conclusion of the course, the class will go to a target range to practice with live ammunition.

REPORT CITES NORTHROP WORK IN PROSTHETICS

Northrop research and patent practices have recently been given credit for many outstanding advancements in the field of prosthetics.

The United States Senates' pre-

(Continued on Page 2)

NORAIR DUTY TOUR—Recently arrived for Air Force industrial planning and procurement training program, Captains Rodophil J. Crowder, jr. and Edward R. Wienecke, pay respects to Norair Vice-president and General Manager Dick Nolan. F. M. Edwards, Norair supervisor, Training Programs, is at left. Officers selected for management level in-industry training by the USAF Institute of Technology, are select, highly qualified and few in number. Norair duty will be for approximately one year. Indoctrination is first phase, Engineering next. Entire scope of plant will be covered.

VISITING FIREMEN—from El Segundo City Fire Department rehearse Norair Mariposa firemen, volunteers and regulars, in proper hose and ladder locking in. On roof is Norair Fire Inspector Herb Kessler. On ladder are El Segundo City firemen, Captain Dinwittie and Fireman Jim Hines. At base of the fire ladder are volunteer Fireman Vic Morera and El Segundo Fireman Paul Enriquez.

Regulars and Volunteers Blank Blazes at Norair

Fire Prevention Week is October 4 through 10.

The purpose of Fire Prevention Week, perhaps long lost in the grey dust of time, is to commemorate the great Chicago fire of the last century when Mrs. O'Leary's fractious cow kicked over the milking lantern.

While fire prevention is an all-year, around-the-clock program at Northrop, Norair's Director of Security and Protection Services Paul Crews points out that Fire Prevention Week would be a good time for all Norcrafters to appraise fire prevention efforts both at work and at home.

The focal point of a good prevention program is a strong suppression force—Northrop maintains a fire department 24 hours a day, 7 days a week. They are backed up by the City of Hawthorne Fire Department and other metropolitan departments in case mutual aid becomes necessary.

In addition, a volunteer fire department is also maintained, consisting of 150 Northrop personnel strategically located throughout the Hawthorne complex, and trained in the latest methods of fire prevention and suppression. These men receive training once each month covering a broad course. Many have also received Civil Defense Rescue Training through the city of Los Angeles training program.

Frequently other metropolitan departments join in our program to lend their support. Recently the city of El Segundo provided their new 85-foot aerial ladder to train the Mariposa volunteers on ladder handling.

To the men of the voluntary brigade go the continuing thanks of Plant management and supervision for a job always well done.

Training photos at left and below show how they keep sharp.

Honeycomb

(Continued from Page 1)

Division of Turco Products, Inc.

The honeycomb Chem-Mill process consists of pressing a block of honeycomb core into a frangible, plaster-like, water-dispersible "negative" representing the reverse side of the desired contour; masking the exposed portion of the honeycomb cells; dissolving the negative, and removing the unmasked portion of the honeycomb by chemical milling.

Turco plans to release detailed specifications of the process to the Chem-Mill industry at the National Metals Congress to be held November 2-6 at Chicago.

Norair has estimated that substantial capital equipment costs can be saved by substituting chemical milling for the operations now performed by a crushing press or by machine milling. For example, the cost of a typical aircraft part—a vertical stabilizer leading edge—can be reduced from $361 to $27 per unit by use of the new process instead of machine milling.

The first production facility for performance of the new process is now being installed in the Norair honeycomb structures fabricating shops and will be used for chemical milling of components for the U.S. Air Force's supersonic Talon T-38 trainers and for the Northrop N-156F Freedom Fighter.

The Chem-Mill Division of Turco, with headquarters at Wilmington, California, is the leading supplier of chemical milling specialty materials, having pioneered the development of the chemical milling industry throughout the United States and the Free World.

Time for a Change

The switch from Pacific Daylight Time back to Pacific Standard Time is scheduled for the small hours of Sunday morning, September 27. Don't forget to turn your clocks and watches back one hour.

The end of daylight time spells the end of summer. But on the plus side — the "lost hour" snatched last spring is returned. All those who have missed that hour's sleep can make it up Saturday night.

FIRE PREVENTION KNOW-HOW—Correct method of handling a ladder is demonstrated to members of the Mariposa volunteer firemen by Captain Dinwittie of the El Segundo City Fire Department. Left to right are volunteer firemen C. C. Bija, Martin Miller, Norair Fire Inspector Herb Kessler, volunteers C. R. Rush, C. F. Meyers, J. D. Davis, L. R. Benge and Victor Morera. El Segundo's new 85-foot aerial ladder truck is shown.

What's the Answer?

Do you have a question? The Norair News *will welcome questions on any subject of common interest and will get the correct answer from the people who know. All questions will be answered, either through the column in the* News *or by memo or telephone call to the requester when the inquiry lacks sufficient common interest for all Norcrafters.*

Queries are to be directed to the Editor, Norair News, *organization 1320, zone 65. Inquiries may be signed or not, as you wish.*

QUESTION

Why are articles such as "Candlepin Tourney at P. I." (9 September) printed in the Norair News when *local* bowling leagues, tourneys, etc., are never even mentioned?

ANSWER

The Norair News, within limited space, impartially reports on all sports and recreation. Bowling league news, as with other group recreational activities should be reported through the NRC commissioners. As for the Candlepin tourney in Presque Isle, the News headlined it as a significant Company event which aside from straight news value indicates "esprit de corps" of our Norcrafter Snark team far from home.

Do You Have A Question? Then Send In This Form

Editor, Norair News

Zone 65.....

.....

.....

.....

Signed*.....

Organization.....

*Signing of question is optional.

F-89 Trophy

(Continued from Page 1)

percentage accomplished versus total attempts.

Twenty-five points are given for aircraft that remain operational ready versus total operational aircraft on hand.

Ten points awarded for safety.

The 54th Fighter Interceptor Squadron is based at Rapid City, South Dakota. It is an element of the 29th Air Division, Central Air Defense Command.

The Hughes achievement award, in addition to the F-89 honor, has also been won by squadrons equipped with F-94Cs, 86Ds and 102s.

Selection of the winner is made by the USAF Tactical Evaluation Team.

Prosthetics

(Continued from Page 1)

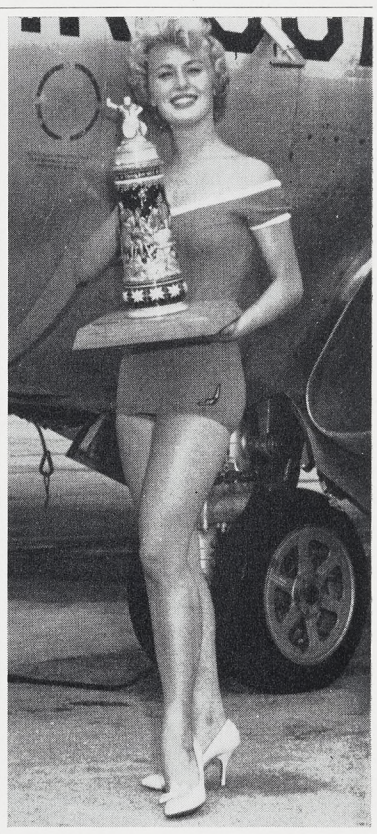
liminary report from the Subcommittee on Patents, Trademarks, and Copyrights, 86th Congress, reports in detail on Veterans' Administration research for disabled veterans in the field of prosthetic appliances.

Listing inventions being used by disabled veterans, the Subcommittee examples Northrop-developed control cables, quick disconnect anchor-fittings, elbow locks, and rotary wrists.

Immediately following World War II Northrop, on a no-profit basis, conducted extensive research in perfecting appliances to be used by war amputees.

Northrop patents—over twenty-two inventions on artificial limbs and appliances — were given by Company management to the government—royalty-free.

Northrop prosthesis developments were recognized as being the first improvements in artificial arms and legs in modern times.



WHO IS—? Miss Charlene Krause, a Miss Universe representative from Wisconsin, poses beside Scorpion of Milwaukee Air National Guard. She holds Miller Brewing Company trophy to be presented each year to best flight in the 126th.

Northrop-Norair News

VOL. 17 No. 25

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NORAIR DIVISION

CHARLES BARR, Director

CHARLES BRADFORD, Editor

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Seven Norcrafters get MS Degrees

Seven Norair engineers who recently received master of science degrees from the School of Engineering, University of Southern California, were honored at a special ceremony at the Hawthorne facility.

Receiving degrees were Richard Morra, Jimmie Chin, Joe Wada, John Patierno, James Stevens, Donald Trask, and Ange Benard, jr.

Dean Carl Hancey, dean of University College, USC, confirmed the degrees culminating three years of study under the Northrop-USC degree program for graduate students.

Following the ceremony, Norair officials, Dick Nolan, vice-president and general manager, and George Douglas, vice-president, Engineering, congratulated the men on their accomplishment.

Under the program Northrop engineers interested in studying toward an advanced degree register at Northrop and are admitted to the USC graduate school after meeting the full academic requirements of the school.

During their advanced study certain courses are offered the students in the evenings at Norair by professors from the university. The university extension division permits 18 of the 28 required units for a degree to be earned in classes held at the Norair facility.

To further encourage graduate study, Norair pays full tuition costs for courses taken at Hawthorne and 80% of the tuition for courses taken at the university's main campus through the Company Educational Refund Program.

Since the beginning of the Norair-sponsored program in 1956, more than 100 engineers have enrolled and are working toward their advanced degrees.

CONGRATS — Northrop's Vice-president and General Manager, Dick Nolan, extends hearty congratulations to Donald Trask during recent master of science degree ceremony. Dean Carl Hancey, dean of University College, USC, presided, confirmed degrees. See photograph below.

NRC SQUARE JET DANCERS START NEW CLASSES

The NRC Square Jets will host a beginner's square dance course for all Norcrafters and guests, it is announced by George Sanborn, commissioner.

The class is due to start tomorrow night, September 24, at the Henry Clay Junior High School auditorium, 124th and Western Avenue. Time of the grab-your-partners is from 8 to 11 p.m.

Park on 124th Street, says George. Handier.

Callers are terrific, also says George. They are Frank Frankenburger and Ralph Hill.

The course will be open for new dancers through October 22.

Meanwhile, all intermediate dancers are invited to do-se-do along with the Square Jets on Friday evenings.

Another thing to mention is the Halloween costume (non-western) square dance ball on October 30. Eats, crowd, prizes!

Radioplane To Build Escape Kits

The Radioplane Division of Northrop Corporation was selected last week by Convair to furnish parachute escape and survival kit packs for the F-106A supersonic all-weather interceptor. Each pack will consist of one drogue parachute, one main parachute and one pilot survival kit.

Initially, Radioplane has received authority to proceed with the production of 134 packs.

VULTEE GRADS WILL REUNION

Norcrafters, formerly with Vultee Aircraft, are invited to another Vultee alumni stag get-together, the News is advised by Jimmy Hazelett.

The reunion will be held at the Royal Hawaiian in Anaheim. You can wear Hawaiian motif, sport shirts, slacks, bathing suit. The pool opens at 4 p.m. and that is when the affair starts.

Date: October 3, a Saturday. Dinner, prime rib, is at 7.

Jimmy says to contact Dan Field, TRojan 1-1480, Fullerton, for reservations.

This is the 12th reunion for Vultee folk.

ROYCE HALL IN MATH SATIRE

UCLA's Royce Hall will feature Tom Lehrer, former Harvard mathematics instructor, turned satirist, on Thursday evening, October 1. Time is 8:30, the News is advised.

Tickets are available at all Mutual agencies.

Mr. Lehrer—a brilliant student—graduated from Harvard at the age of eighteen. He joined the mathematics teaching staff at his Alma Mater while continuing to work for his Ph.D.

Satire, his spare time hobby, became his forte, and Engineering audiences have been requesting his appearances regularly since 1952, the time of his debut.

Mr. Lehrer has appeared in concert at Cornell, Yale, Harvard, M.I.T., Stanford, and Princeton.

MID-NIGHT OIL PAYS OFF—Norcrafters who studied long hours to receive college degrees receive congratulations from George F. Douglas, vice-president, Engineering. From left, John Patierno, James Stevens, Donald Trask, Richard Morra, Mr. Douglas, Joseph Wada, Ange Benard, jr., Jimmie Chin. See story for Norair education plan.

It's a Northrop Tradition

"Northrop is a good place to work."

This is a byword in the industry. Wherever people gather and talk shop, the phrase is always heard—"Northrop is a good place to work."

It started in the earliest days of the Company. Way back during the days of the N-3PB, the early Flying Wings, and the Vultee Vengeance contracts. This was the time of World War II buildup. Many people who wanted to do their bit for victory came to work in aircraft for the first time.

One company was like another to them. When these new defense workers asked, "Where shall I go to work?" They were told—"Northrop."

"Why Northrop?"

"Northrop is a good place to work," was the answer.

And this was right. Northrop has a special attitude, a good human relations attitude that stands out above the crowd.

The saying came and stayed because it was the right and most natural way for men to describe our Company.

"Northrop is a good place to work" started as a phrase. It became a slogan then a byword.

It is now a tradition.

General Electric's New -5 Passes Flight Tests

An afterburner prototype of General Electric's J85 turbojet with 8-stage compressor has successfully completed its first flight tests.

During three 30-minute flights on a modified F-102 flying test bed, the XJ85-5 engine was operated at altitudes up to 45,000 feet and speeds to Mach 0.9.

These flights, part of an early-stage development program being conducted at G-E's Flight Test Center, Edwards Air Force Base, were the first in-flight demonstrations of an 8-stage J85. Production models of this engine will power Northrop's N-156F counterair fighter and the T-38 Talon trainer.

Rated at 3850 pounds, reheat thrust—2500 pounds dry thrust—and weighing only 525 pounds, the -5 is one of two production J85 engines being developed for the U. S. Air Force by General Electric Small Aircraft Engine Department.

Other engines being developed by the department are the T58 turboshaft engine, which produces 1050 shaft horsepower, and the 2650 horsepower T64, which can be utilized as a turboprop or turboshaft engine.

NEWS BRIEFS

(Continued from Page 1)

AIR FORCE TEN MOST NEEDED—Norair Vice-president, Customer Relations, John Alison states, "General Thomas D. White, chief of Staff, USAF, in his address before the annual Air Force Association convention in Miami, lists the Department's ten most needed. They are (1) intercontinental ballistic missiles, (2) air-to-surface missiles, (3) follow-on long range aircraft, (4) advanced tactical systems, conventional and nuclear weapons, (5) a ballistic missile warning system, (6) long range defenses, (7) a modern network of instantaneous, reliable and secure communications, (8) advanced reconnaissance systems, (9) a modernized cargo fleet, (10) and advanced manned space systems. . . . Norair capability of prime in the areas mentioned is significant in several areas, particularly in points three and nine where our boundary layer can be applied. We are also hard at work on point ten, advanced manned space systems, through the elements of Weapon System Development Engineering and other R&D areas."

JUDGE YANKWICH PATENT RULING—Patent case ruling by Federal Judge Leon Yankwich of the Southern California District Federal court is now being studied by George Gore, Corporation secretary and Norair general counsel . . . Judge Yankwich ruled for the government defendant in a civil suit which sought damages for alleged military public disclosure of details of a missile component. Mr. Gore stated, "To evaluate the effects of this ruling, if any exists, on patents and processes perfected by the Company and by Norcrafters, a comprehensive study of the litigation is necessary. Proceedings of the case will not be available for several weeks. Personnel will be advised if Company patent policy has been basically affected."

DISTINGUISHED VISITORS — *Major General Kenneth B. Hobson*, newly appointed commanding officer, Ogden Air Materiel Area, visited Corporate offices and Norair, 15 September. . . . Accompanying General Hobson were Colonel F. L. Tenney, director, Procurement and Production; Colonel E. C. Pruett, chief, Management Services and Plans; and Colonel E. B. Gentry, director, Logistics Support Management. . . . *Major General P. E. Ruestow*, commander, Middletown Air Materiel Area, also visited Northrop Corporate offices and Norair Division, 17 September. . . . Accompanying General Ruestow were Colonel M. G. Ferguson, inspector general; Colonel L. H. Garret, director, Procurement and Production; and First Lieutenant G. Delpray, aide to General Ruestow. . . . Captain H. B. Lethbridge, has been appointed MAMA liaison officer at Edwards AFB. . . . Both parties reviewed Company capability, T-38/N-156F status, held informal discussions. General Ruestow also reviewed T-38/N-156F interchangeability features.

BBSF Classified Ads

Items advertised in "For Sale" and "For Sale or Trade" categories are limited to a maximum of $50. Price must be stated.

Ads for agencies, commercial enterprises and private businesses are not accepted.

Deadline is noon Monday, nine days before publication.

FOR SALE

DESK, carved mahogany, double-pedestal, kidney-shaped, leather top, $50. FR 5-2315. A

BLANKETS, 3, double-size, w/4 pr. drapes, $35. DA 4-8249. A

TV SET, RCA 17" table model, mahogany, wood cabinet, $22. PL 6-0015. A

TRAILER, 2-wheel-type, 5'x8', 48" sides, newly painted, $50. DA 3-2974. A

CARBINE, British-type, .303 Enfield, w/ ammunition, $30. PL 6-6578. A

WEDDING GOWN, floor-length, cost $110; $25; pearl & rhinestone crown w/ veil, cost $45; $15. PL 6-0490. A

AUTOMOBILE, 1949 Chevrolet, 4-door sedan, $50. OS 6-0051. A

TV SET, Capehart 17" table model, mahogany, $25. OR 1-0574. A

MUFFLERS, glass-packed, 1 pr., 36" overall length, fits 1955-56 Mercury, 1957-58 Ford, $10. AX 3-4486. A

SURFBOARD, Velzy, 9'7", torpedo design, 160 lbs. or less, $45. FR 9-8854. A

BUFFET, Bird's-eye maple, $5. OR 7-1286.

BICYCLE, Boy's 26", Schwinn Corvette, 3-speed w/handbrake, rack on back, $50. OR 8-0250. A

WANTED TO BUY

HEATER, cannon or pot-belly-type. Prefer 36" to 42" high and must be in operating condition. FR 4-2915. B

FOR SALE OR TRADE

WASHER, GE, automatic, new factory rebuilt, sealed unit, $25. or trade. FR 5-0813. M

ROLLER SKATES, Precision, professional-type, size 9, cost $96; $40. or trade for small boat. Box 2501. M

PERSONALS

SINCERE THANKS & appreciation to the many friends of Norair for the beautiful flowers, cards & expressions of sympathy extended to us during the recent loss of our wife & mother. MARION WEBB, CHESTER WRIGHT, DOROTHY HAM & FAMILIES. L

THANK YOU for your kind expression of sympathy. It was deeply appreciated. HELEN HOPKINS & FAMILY. L

THANK YOU to everyone for their kindness & sympathy in our sorrow of the passing of our little daughter. MR. & MRS. VERNON L. JOHNSON & SON ALLEN.

RIDES WANTED

7 a.m. — 3:45 p.m.

CRENSHAW & 109TH, Inglewood. Dorothy A. Lethem, ext. 1912. 2

CRENSHAW & CENTURY, Inglewood. B. McDonnell, ext. 1359, PL 6-9619. 2

SAN BERNARDINO FREEWAY & PUENTE, West Covina. Harvey Anderson, ext. 2353, ED 8-2398. 2

DOTY & 120TH ST., Inglewood. Rowena C. Gabaldon, ext. 771, OS 5-0563. 2

7:30 a.m. — 4:15 p.m.

EL SEGUNDO & NORMANDIE, Los Angeles. Rose C. Herron, ext. 408, PL 4-3665.

PRAIRIE & 111TH ST., Lennox. Carol L. Taylor, ext. 2366, OR 4-1336. 3

CENTINELLA & ROSE, Los Angeles. R. J. Stoll, ext. 3-475, EX 7-4732. 3

8 a.m. — 4:45 p.m.

HERRIN & 1ST., Manhattan Beach. Edmund L. Jucevic, ext. 531. 5

SEPULVEDA & PALOS VERDES DR., Torrance. G. E. Bielefeld, ext. 1678. 5

RIDES OFFERED

7 a.m. — 3:45 p.m.

SAN BERNARDINO FREEWAY & PUENTE, West Covina. Harvey Anderson, ext. 2353, ED 8-2398. 12

8 a.m. — 4:45 p.m.

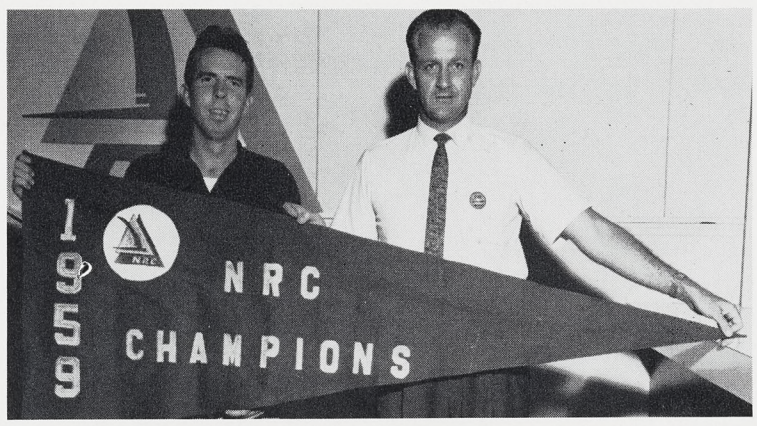
HERRIN & 1ST., Manhattan Beach. Edmund L. Jucevic, ext. 531. 15

SEPULVEDA & PALOS VERDES DR., Torrance. G. E. Bielefeld, ext. 1678, 15

IMPERIAL & CRENSHAW, Inglewood. M. C. Harrington, ext. 439, OR 8-0250. 15

Luminaries Shine in NRC Softball Awards Night

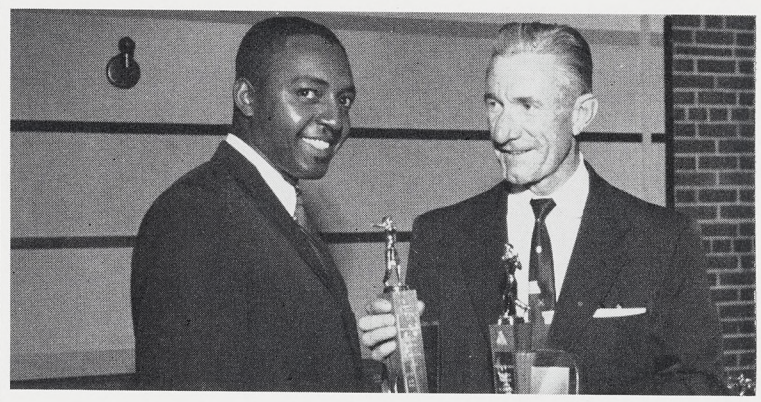
DODGERS AND FRIENDS — Norair American League champs from left, George Pettus, Don Bevans, Frank Rosenstiel, Monte Halberg (commissioner), Glenn Mierau, Rosey Gilhousen, Mike Sulentich, Jack Jones, Dodger (for real) executive A. E. Patterson, Tom Stinson, "Red" Lynn, Matt Oliva, Perry Cannon. Kneeling, W. B. Monson, and Jack Gibilisco. Not shown in photograph, John Hines.



NIGHT AND DAY—Night Commissioner Bob Moncrief and Day Commissioner Monte Halberg show the championship plant softball pennant for 1959 NRC tourney.

NIGHT CHAMPS—Night shift champs (5502) pose proudly from left, Larry Soto, Dick Nye, Jerry Schisser, Floyd Benedict, Elmer Slate, Don Lowe, Joel Jackson, George Dufour, Alex Griffith, and George Parry. Team members not in photo, Duane Dawson, Carl Bryant, Ev Crum, and George Santee. Softball Awards evening was culmination of outstanding season. Sixty trophies were awarded.

OLD TIMES—John B. Clark, Norair director, Industrial Relations, quotes from Norair News "Sports and Such" World War II baseball column as author Rosey Gilhousen listens attentively. Rosey, ex-Norcrafter, is now Pittsburgh Pirate scout, was also scout for rambunctious Hollywood Stars before advent of major leagues to West Coast.



HOME RUN KING—and batting champ Mel Overton receives his trophy from "Red" Lynn. Mel was member of the Red Hots. He batted a big .675 for the season.

Sixty Awards Presented To Softball Team Champs

It was a big evening at the Clubhouse during the NRC Softball Awards ceremonies, Saturday, September 12.

Sixty awards were presented.

Top award man was Mel Overton. The Red Hots' star batted .675 for the season and took home run kingship for the plant.

The affair was replete with sports headlines of today and yesterday. John B. Clark, Norair director of Industrial Relations and architect of the Company recreation program, introduced A. E. Patterson, Los Angeles Dodger executive, Ross "Rosey" Gilhousen, oldtime Norcrafter and now Pittsburgh Pirate scout, and "Red" Lynn, famed Angel and Hollywood Stars pitcher. These gentlemen held forth with remarks from their respective areas and assisted in presenting the trophies.

Norcrafter award list:

Night shift most valuable player, Jerry Schisser.

Pacific Coast League batting champion, Frank Carmelli.

American League most valuable player, Tom White.

National League batting champion, Mel Overton.

Night shift batting champion, Gary Gill.

Pacific Coast League sportsmanship award, Semonols.

American League batting champion, W. B. Monson.

National League home run champion, Mel Overton.

Pacific Coast League champs, "Ballhawks," Larry Marks, manager; Bob Fitzgerald, Ed Handlogten, Ralph Morales, Jim Haizlip, Ray Albert, Fred Henning, Bill Roberts, Skip Golden, Don McPhall, Roy Mustain.

National League champs, "Red Hots", Mac McConnell, manager; Mel Overton, Jim Sides, Bill Greene, Blanchard Davis, John Peel, Bob Taffee, Julio Yniquez, Joe Perez, Don Hatfield, Scott Mitchell, Dick Vincell, Chuck Hiller, Don Frost.

Night shift champs, Department 5502, Bob Moncrief, commissioner; Elmer Slate, team manager; Larry Soto, Jerry Schisser, Duane Dawson, Don Lowe, Joel Jackson, Alex Griffith, George Parry, Carl Bryant, Dick Nye, Ev Crum, George Santee, Floyd Benedict, George Dufour.

American League champs and interleague plant champions, "NRC Dodgers", Monte Halberg, manager and commissioner; Jack Jones, Glenn Mierau, George Pettus, Matt Oliva, Perry Cannon, Tom Stinson, Frank Rosenstiel, W. B. Monson, Jack Gibilisco, John Hines, Mike Sulentich, Don Bevans.

NRC Good Time Table for October

For enrollment or information on activities listed below, call or contact Personnel Activities, Plant One, extension 2784. All clubs meet at the NRC Clubhouse unless otherwise noted.

ARCHERY, Wes Williams
Meet Wednesdays, 7:30 p.m.—movies 1st Wednesdays. Archery classes now in session.

ART CLUB, Forrest Ayrest
Meet in Annex Thursdays, 7 p.m. Models furnished by NRC.

ASTRONOMY
Meet 2nd & 4th Mondays, 7:30 p.m. Tenth lecture in series October 26.

BASKETBALL (Days) George Forbes, Jr.
Pre-season tourney October 31.

BASKETBALL (Nights) Bob Moncrief
Pre-season tourney October 31.

BIBLE STUDY, Warren LaSelle
Plant I—Daily, 11:30-12:15, Tool Design Bldg.; 11-11:45, 5566 Conf. Room.
Plant II—Mondays & Thursdays, 12-12:45, Conf. Room 2.
Eng. Center—Daily, 12-12:45, Reliability Conf. Room.

BOAT CLUB, Ken Payne
Meet 1st Wednesdays, 7:30 p.m.

BOWLING (days), Woody Howsare

BOWLING (nights),
Winter leagues now forming.

BOY SCOUTS, Sid Cohan
Sea Scouts, intermediates, Cub Scouts. All Norcrafter boys welcome.

CAMERA CLUB (days), Lauren Ray
Meet 1st, 3rd & last Wednesdays, 7:30 p.m.

CAMERA CLUB (nights), John Newman
Meet 1st & 3rd Saturdays, 8 p.m.

CAMPING CLUB, Fred Armstrong
Meet 1st Mondays, 7:30 p.m. Outing O'Niel Park, Oct. 3-4.

CHESS CLUB, George Parrish

FISHING, Art Kraft

GEM & MINERAL CLUB (days), Ray Cole
Meet 2nd Wednesdays, 8 p.m. Mineralogy classes Thursdays, 7-9 p.m.

GEM & MINERAL CLUB (nights), Doyle Shook
Meet 1st Wednesdays, 1 p.m.

GOLF, Bill Putnam
Golf tournament Baldwin Hills Oct. 11.

GUN CLUB, Robert Raines
Meet 3rd Wednesdays, 7:30 p.m.

MIXED CHORUS, Verne White
Meet Tuesdays, 7:30 p.m.

MODEL RAILROAD, Jack Wilson
Meet in Annex Thursdays, 7-10 p.m. Visitors welcome. Need electricians, carpenters & scenic artists to help with new layout.

ORGAN CLUB, Gail Skinner

PHILATELIC CLUB, Eugene Richardson
Meet 2nd & 4th Mondays, 7 p.m.

RADIO CLUB, Fred Steese
Meet last Thursdays, 7:30 p.m. Radio code class meets Wednesdays, 7:30 p.m. NRC's station is W6VPZ.

RIDING CLUB, Tex Stately
Ride 1st & 3rd Sunday of month.

SKEET CLUB, Walt Graves
Meet alternate Saturdays Oct. 3-17-31. at Rancho Angellis Range, Main & Broadway, 10 a.m.

SKINDIVING,
Meet 3rd Mondays, 7:30 p.m.

SPORTS CAR CLUB, Bill Eichelkraut
Meet 2nd Thursdays, 7:30 p.m.

SQUARE DANCING, George Sanborn
Fun Level at Henry Clay Jr. Hi, 124th and Western, Fridays, 8-11 p.m.

SURF FISHING, John Pawlicki
Meet 1st Tuesdays, 7:30 p.m.

TENNIS, Raul Arredondo
Practice at El Camino Jr. College Saturdays, 10 a.m.

TOASTMASTERS 212 (days), John Walker
Meet at Cockatoo Inn Thursdays, 6:30 p.m.

TOASTMASTERS 1398 (nights), Jay Rayner
Meet at Western Ave. Country Club Thursdays, 12:15 p.m.

TOASTMASTERS, 2583 (days), Walt Brown
Meet at Paul's Club Alondra Mondays, 6:15 p.m.

TRAVEL CLUB, Howard Cornelius
Meet 4th Mondays, 7:30 p.m. Hawaiian trip April 30, 1960.

FOR THE LADIES

BOWLING, Corinne Davis
Winter leagues now rolling.

GIRL SCOUTS, Dallas Vasquez
Mariners, Intermediates, Brownies. All Norcrafter girls welcome.

KNITTING, Ethel Simpson
Meet Thursdays, 7:30 p.m. — instructions each meeting.

TOASTMISTRESS, Marge Gates
Meet in NRC Clubhouse Board Room 1st & 3rd Thursdays, 7 p.m.

PUBLIC SERVICE AWARD

AWARDED TO Norair News for a Tower In The Plain

Northrop-Norair News

Issued biweekly by Norair Division of Northrop Corporation • Wednesday, October 7, 1959

T-38 MARKS 100TH FLIGHT

T-38 PILOTS 'TAKE THE CAKE'—Captain Swart Nelson, Air Force T-38 project test pilot, donned chef's hat briefly to cut a 100-candle cake at Edwards after completing Talon's 100th test flight. Test pilots waiting, Hank Chouteau, Norair; Captain Norvin C. Evans, USAF; and Lew Nelson, Norair chief engineering test pilot. (Story this page.)

NO AERODYNAMIC PROBLEMS AS TALON TEST PROGRAM ON SCHEDULE

The Talon Edwards program has passed the 100th test flight.

Less than six months after first flight, the new USAF-Norair trainers racked up their century mission with century performance all the way.

The first 100 flights amount to nearly half of the prototype test schedule and approximately one-third of the combined prototype and T-38A test program.

The first T-38 made its maiden flight last April 10 and has been aloft 64 times. The second T-38 made first flight June 12, and has been up 36 times.

Milt Kuska, director, Flight Test Engineering, said the test program is "right on schedule."

The T-38 has encountered none of the major problems usually experienced in flight testing supersonic aircraft, and not a single aerodynamic change has been indicated in the test results, Mr. Kuska said.

The 100th Talon flight was made by Swart Nelson, USAF, T-38 project test pilot.

Designed as a replacement for the T-33, the T-38 will make its first operational appearance in the Air Training Command, where it will be used to train pilots for the advanced aircraft of the 1960-70 decade.

Although designed for performance in the Century Series fighter class, the Talon will provide lower production, operating and maintenance costs than those of current combat aircraft.

Lightweight General Electric J-85 engines power the Talon. Twin-engine reliability and dual engine-driven systems give the "supersonic classroom" the highest safety assurance of any aircraft in its performance class.

Single-engine flight and mid-air engine restarts have been demonstrated repeatedly in the test program. In addition, T-38s have been put through flight maneuvers with one engine operating.

Also undergoing extensive flight testing at Edwards Air

(Continued on Page 2)

Industry Folk to Week-end Visit At Vandenburg Air Force Base

A weekend Flight to the Future!

A Saturday and Sunday visit to Vandenburg Air Force Base for personnel working in Southern California aero/space industries, has been announced by the Los Angeles Junior Chamber of Commerce, sponsoring agency.

Date of the visit, which is under the auspices of the Aero/Space Industries Association, is November 14 and 15.

Vandenburg is the nation's strategic missile base near Santa Maria, California.

Wives are also invited. Persons under 21 are ineligible.

The Flight to the Future visitation has the approval of General Arnold Lehman, chief Public Information Officer, USAF, Pentagon, and General David Wade, commanding officer, 1st Missile Division, USAF-SAC, Vandenburg.

The purpose of the Flight to the Future is to direct attention to Southern California as a center of missile operation and manufacture. A secondary purpose is to provide people who may be engaged with the fabrication of missiles with a view of the "front line". Any profit derived from the project will finance future community service, charitable, and youth-benefiting LAJCC projects.

Those who attend will be transported from this area to the base by Tanner Gray Line. Lunch will be served on the base. Dinner, hotel and breakfast in Santa Maria will also be part of the trip.

This will be the first occasion

(Continued on Page 3)

Edwards Art Show

EDWARDS ART — Staff Sergeant Johnny Pearson, who worked at Norair before going on active duty with the Air Force at Edwards, shows a drawing of Air Force Flight Test Center Commander, Brigadier General John W. Carpenter III, to the General and Mrs. Carpenter. The picture was part of an art exhibit Pearson organized recently at Center. Paintings and sculptured pieces were displayed.

LEO RICHMAN TO SPEAK IN BAY AREA THIS WEEK

Leo Richman, Norair chief, Records Management, is in high demand for industry talks.

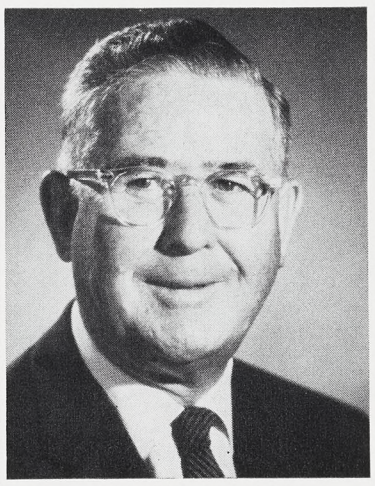
Company Records Management program is patterned after the Hoover Commission Task Force recommendations and is unique in aircraft. It has proved highly successful and particularly

(Continued on Page 3)

Credit Union to Reach $100 Million Clearings

The Northrop Credit Union approaches $100 million clearing mark.

Since first founding in October of 1946, and as of August of this year, $94,489,399.81 had passed through the Credit Union books,



WALTER T. GAGE

it is revealed by Walt Gage, Credit Union treasurer and manager. He expects that the $100 million mark will be reached shortly after the first of the year.

The Credit Union has $1,437,646 on deposit. Outstanding loans amount to $846,920.64. Gross assets including loans are $1,551,760.10. Securities—as prescribed by law for Credit Unions—are in U.S. Government bonds, savings and loan association certificates, and savings accounts in banks.

Number of borrowers is 2792 with an average of $303 a loan. Number of depositors stands at 7625 with an average of $188.

In discussing the Credit Union's job at Northrop, Mr. Gage

A SERVICE

"A credit union is a cooperative corporation organized for the two-fold purpose of promoting thrift among its members and creating a source of credit for them at reasonable rates of interest."

from
the Credit Union doctrine

pointed out that the Northrop Credit Union charges lower interest rates than banks and financial houses. "We charge ½ per cent less on new car financing; from ½ to as much as 5½ per cent less on used car and unsecured loans," Mr. Gage stated.

"As an illustration, we compute our used car and unsecured loan interest charges at 12 per cent per annum applied 1 per cent a month on the new unpaid balance. One hundred dollars for a year costs $6.50 under this schedule, or 6½ per cent. Banks charge 7 to 8 per cent and fi-

(Continued on Page 2)

NORTHROP–NORAIR

NEWS BRIEFS

JAPANESE STUDY N-156F—General Minoru Genda, chief of Air Staff, heads Japanese team of 10 military and scientific officials for flight test and evaluation of N-156F at Edwards this week. General Genda is personally flying the Freedom Fighter during the evaluation. Lt. Colonel J. W. Bray, is USAF escort officer to the team.

Don't Give Fire a Place to Start--!

FIRE PREVENTION WEEK—President Eisenhower has proclaimed this week, October 4-10, as National Fire Prevention Week. Norair volunteer firemen, who behind the scenes and for 52 weeks a year guard and train against fire, take the opportunity to proudly pose. From left are Dave Carney, P. J. Goudreault, Bill Steigleman, Al Nichols, T. K. May, Earl Struble, Dick Goodwin, G. E. Brittenham and Vern Metro. Volunteer brigade numbers 150 men. Photo shows them ready for drill with fire extinguishers.

WHERE IT REALLY COUNTS—Jim Bartlett, Norair Fire Prevention advisor, has enthralled audience as he explains the life of a fireman to prevention week delegation from the Hawthorne Jefferson Street School. From left, Kathy Smith, John Hartman, Codi Harris, Betty Hall, Nancy Wilson, Paul Cools, Johnny Steele, David Arent, Bobby Losey and Wayne Eguchi. Children help make program a success.

DIAL TWO, TWO, ONE, ONE—The sticker is on all Norair phones. It's for emergencies and will bring firemen in a hurry if you need them. From left are Captain L. G. Baldini, Nurse Jennie Eppolite and Captain Les Phipps. Everybody helps prevent fires. Clean work areas, good housekeeping, observance of rules stop fires before they start.

THE LADIES KNOW—Captain Baldini explains high pressure nozzle to Vlaine Harrell, Evelyn Gilbert and Pat Caves. Norair fire trucks are on display during Fire Prevention Week. Nozzle is used on 750 gallon a minute-pumper. Fire care is for the home as well as on the job.

Credit U

(Continued from Page 1)

nance companies charge up to 12 per cent."

In other words, Norcrafters through the Credit Union pay $6.50 for money they would pay $7 and up to $12 through banks and finance companies.

"New car money is loaned by the Credit Union at the rate of 9 per cent per annum applied at the rate of ¾ of 1 per cent a month. This rate cost the borrower $5 a year for each hundred dollars."

Here banks and finance companies would charge $5.50 and up.

The Northrop Credit Union services both Nortronics and Norair personnel. It is a State of California chartered institution and is under the jurisdiction of the State Division of Corporations.

A thorough examination is conducted by State examiners annually.

Last year, the Credit Union paid depositors 5½ per cent interest.

Each year at this time, Norair Chief Internal Auditor, Stan Guest, requests verification of members' accounts as part of the State requirement for Credit Union examination. All members are urged to return the verification form without delay in the self-addressed envelope provided for their convenience.

T-38 Talon

(Continued from Page 1)

Force Base is the N-156F Freedom Fighter, being developed by Norair under U. S. Government contract for use by allied nations.

The Freedom Fighter is a member of the same design family as the T-38. Powerplants and primary airplane systems of the T-38 and N-156F are identical.

Northrop-Norair News

VOL. 17 No. 26

1001 E. Broadway, Hawthorne, Calif.

A NORTHROP CORPORATION PUBLICATION
Published every other Wednesday
PUBLIC RELATIONS
NORAIR DIVISION

CHARLES BARR, Director

CHARLES BRADFORD, Editor

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What's the Answer?

Do you have a question? The Norair News *will welcome questions on any subject of common interest and will get the correct answer from the people who know. All questions will be answered, either through the column in the* News *or by memo or telephone call to the requester when the inquiry lacks sufficient common interest for all Norcrafters.*

Queries are to be directed to the Editor, Norair News, *organization 1320, zone 65. Inquiries may be signed or not, as you wish.*

QUESTION

Why is it that Engineering Test Lab personnel are not granted the 10-minute rest periods even though Company policy provides for them?

ANSWER

It is assumed that this question pertains to the situation whereby the Test Lab does not have formally scheduled rest periods during which all persons therein will take their 10-minute breaks.

Company policy does provide for two 10-minute rest periods per shift, but does not dictate the actual time during the shift that such breaks must be taken. Scheduling of rest periods must, of necessity, be the responsibility of management of the areas concerned.

There are certain areas within the Norair Division where regularly scheduled rest periods may not be feasible. This condition generally exists where there are test programs or other unique projects in process, which can not be interrupted. In these instances, it is more practical to allow the personnel involved to take time out for relaxation at intervals which would be compatible with their assignment. In most cases, the personnel concerned prefer this arrangement.

It is recognized that all persons assigned to the Test Lab will not be involved at the same time in projects of a critical timing nature, however, it would not be feasible to establish numerous and varying schedules for rest periods to fit the desire of each individual or small groups of individuals.

Supervisors have expressed their confidence in Test Lab personnel by allowing them to individually determine the most practical time for such intervals to be taken.

Do You Have A Question? Then Send In This Form

Editor, Norair News

Zone 65.....

.....

.....

.....

Signed*.....

Organization.....

*Signing of question is optional.

Nine-day "Mexicoliday" in Blueprint for NRC Travel

Northrop Recreation Travel Club announcement comes forth with the "Mexicoliday" Mexico holiday trip for nine days during the upcoming Christmas week, December 26 to January 3.

Price for the tour is $285 a person round trip.

Los Angeles-Mexico City, four days; Taxco and on to Acapulco for a New Year's Eve party!

Flight will be via Western Airlines DC-6B.

Hotels—four nights, Hotel Versalles, Mexico City. One night, Hotels De La Borda and Victora, Taxco. Two nights, Hotels Majestic and Club de Pesca, Acapulco. Rate based on two persons sharing twin bed room.

Meals — box lunch on Xochimilco tour and pyramid tour. All meals outside of Mexico City, three Taxco and six Acapulco.

Special items — New Year's Eve party, bullfight tickets.

Sightseeing and transfers—all sightseeing as outlined in itinerary via motor coach. Complete city trip—Xochimilco—pyramids of sun and moon. Round trip Mexico City to Acapulco via Cuernavaca and Taxco. Transfer from airport to hotel upon arrival.

Tips and taxes—all taxes are included, tips for baggage as specified, other tips for passenger account as service rendered.

Baggage — forty-four pounds free of charge. One bag will be handled throughout the tour. Hand baggage will be responsibility of passenger.

Reservations — $50 deposit is required to hold reservations. Balance due not later than November 1.

Documents — one Mexican tourist card, $3 per person. A form will be provided for completion. Proof of citizenship (birth certificate or voter's registration) must accompany. Passengers may handle direct with Mexico Tourist Department or forward to NRC to obtain.

Vaccination for smallpox if not vaccinated within three years.

For tour itinerary in detail contact Personnel Activities.

It's a Northrop Tradition

"Northrop is a safe place to work."

Norair management has always held that life is the most precious commodity and that good working conditions, as with good tools, help build good products. One of the first precepts observed on all matters, even from blueprint and planning stages, is safety.

Norair safety engineers must approve all facilities and installations as being safe before operations start.

A classic example of Norair safety consciousness is the story of magnesium. This "Cinderella" metal came into use for castings and aircraft structural members during World War II. All (who are old enough) will recall the days of the photographer's flash powder. That powder was magnesium powder. Magnesium flares make the brightest light and even today are used in warfare to illuminate targets.

In the shop mag powder from saws and machining operations posed a serious safety hazard. Company safety engineers, practically alone in the industry, set to work and in a short time prescribed safe procedures for handling the metal. They went a step beyond. A big important step. They researched and devised the first successful method the world has known for snuffing the inferno of a mag fire. This method is now used worldwide.

Today Norair safety engineers and health physicists have perfected ways and means to keep nuclear projects safe to all who will be working on them at Northrop Field.

"Northrop is a safe place to work," was first said by our insurance carriers.

It continued as a saying as dedicated men worked to keep it so.

It became a common expression when talking about the Company.

It is now a tradition.

CONCENTRATION REQUIRED—Norair chess experts take on Los Angeles Times Chess Editor and International Grand Master Isaac Kashdan en masse in Clubhouse exhibition. From left are Harry Borochow, director, U. S. Chess Federation; Mr. Kashdan, Norcrafter Bill Lurie and Plant One champ (hand on face); Frenchy La Montagne, Radioplane; Bill Henderson, Chess Club commissioner; and guest John Weaver. Mr. Kashdan played 35 opponents at once. He bested 31, drew against Palmer, lost to Harshbarger, Jaffray and Kozel. Commissioner Bill lost a close contest in waning hours.

Norair Visibility Log

The Norair News in answer to many requests, begins publication of a new feature—the Norair Visibility Log—which will list the names of Norcrafters participating in events of significance to the Company, the community and the nation.

Thomas V. Jones, Corporation president—

To head a team of twenty-five Norcrafters participating in the SAE National Aeronautic Meeting, Manufacturing Forum and Engineering Display, Los Angeles, California, October 5-9, 1959. (See Norair News, September 9, 1959, for names of those taking part in this meeting).

Leo Richman, chief, Records Management—

Will present a paper, "Selling A Records Management Program" before Bay Area Chapter, American Records Management Association, San Francisco, California, October 7, 1959.

John Newton, engineering specialist, Aero-Sciences group and Sterge Demetriades, research scientist, Weapon Systems Development Engineering section—

Will attend the second symposium on Advanced Propulsion Concepts sponsored by the Air Force Office of Scientific Research and the Everett Research Laboratory, Boston, Massachusetts, October 7-8, 1959.

Alfred Binsacca, general supervisor, Design Support group—

Will attend Stanford Research Institute High Temperature symposium, Pacific Grove, California, October 7-9, 1959.

M. E. Carlisle, senior engineer, Engineering Laboratories—

Will present a paper, "Methods for Testing Hydrogen Embrittlement" before American Electroplaters Society Meeting, San Francisco, California, October 8-9, 1959.

A. J. Tuckerman, senior engineer, Engineering Materials and Research Laboratory—

Will present a paper, "The Effect of Natural Weathering and Accelerated Weathering on the Strength of Epoxy-Phenolic Bonded Aluminum Honeycomb Sandwiches" to the American Society for Testing Materials, Pacific Area National Meeting, San Francisco, California, October 11-16, 1959.

George Douglas, vice-president, Engineering—

Will attend the Institute of Aeronautical Sciences Biennial Anglo-American Conference, New York City, New York, October 5-6, 1959.

Dick Nolan, vice-president and general manager, Norair and George Douglas, vice-president, Engineering—

Will attend "Focusing on the Future," American Management Seminar, New York City, New York, October 7-9, 1959.

R. L. Swan, senior engineer, Airborne Electronic Systems group—

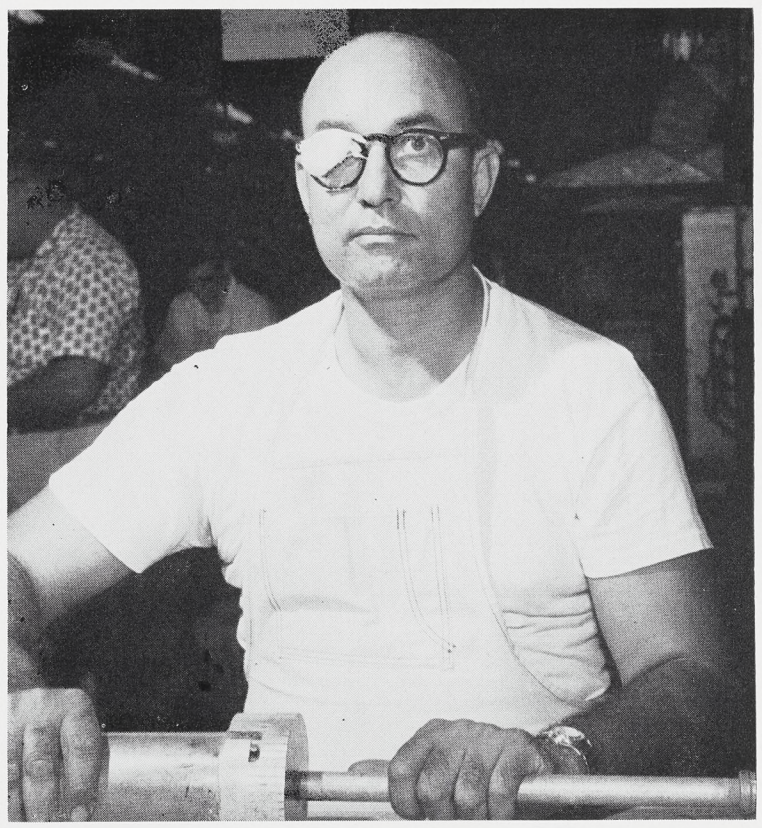
Will attend ninth annual symposium on USAF Antenna Research and Development sponsored by WADC and University of Illinois, Urbana, Illinois, October 12-16, 1959.

Earl Fineaur, senior engineer, Nuclear Development group—

Will attend the seventh ANP Shielding Information Meeting sponsored by Aircraft Nuclear Propulsion Office USAF-USAEC, General Electric Aircraft Nuclear Propulsion Department, Cincinnati, Ohio, October 14-15, 1959.

A. S. Turner, chief tool engineer—

Will attend as Norair representative, AIA fall meeting of the Tooling Committee, St. Louis, Missouri, October 19-21, 1959.



WISE OWL—Vern Pettaway, Plastics and Chem-Mill is unscathed from recent mishap during Polyurethane foaming operation. Vern was wearing his safety glasses when air gun ruptured and a piece of flying metal shattered the lens. No injury was sustained and Vern joins the ranks of the Norair Division Wise Owl Club.

NRC Tennis Club Starts Round Robin Match Play

NRC Tennis Club will start industrial league play this month, it has been announced.

Eight companies will participate for the round robin series of matches to decide league winner.

Interclub activities are already under way with singles and doubles tournaments and practice matches.

Norcrafter men and women are cordially invited to come on out and try the racket.

Meetings are on the first Monday of each month.

The Club plays at El Camino Junior College every Saturday at 9 a.m.

The News is advised that Norcrafter Bill Lurie worked his way to the final round at the United States Senior championships on grass courts at Forest Hills, New York.

Senior classifications applies to men 45 years old or over.

Vandenburg

(Continued from Page 1)

on which any sizable group of civilians has been permitted to enter and tour Vandenburg since its opening. In addition to the luncheon, briefing and tour on the base, the Air Force will conduct demonstrations of liquid oxygen behavior, and other phenomena.

Package price of Flight to the Future tour is $27.50 a person.

For further information and reservations call the Los Angeles Junior Chamber, HUntley 2-4010.

Approximately 250 couples can be accommodated.

Leo Richman

(Continued from Page 1)

tailored to contractor-manufacturer requirements in aero/space activities.

Leo, as a result of industry request for records management know-how, recently was guest lecturer at Loyola's Work Simplification Round Table.

Today he will speak in San Francisco before the Records Management Association, Bay Area branch. Next Friday, he will appear before the Lockheed Administrative group, Sunnyvale. October 21, he will speak before the System and Procedures Association, San Fernando Valley Chapter, and on October 28, the committee of Government Reports on the AIA.

The Norair Records Management program includes publication of the Clerk's Manual, the Correspondence Manual, Filing Systems, Forms, Reports and Records Control, Records Disposal, operation of the Records Center, surveillance of filing equipment and protection of Vital Records.

Mr. Richman is a retired lieutenant commander, U.S. Navy, after 30 years service. Prior to coming to Northrop in 1952, he was chief of Records Management for the General Services Administration, Southern California, Arizona and Nevada. He was also director of the Naval Records Management Center, San Bruno, California.

Leo will schedule tours of the Records Center, Building Eleven, for interested groups.

TOASTMASTERS WELCOME PREXY

President Elect Jay Rayner, Norair Toastmasters Club 1398, was inducted to the president's post, succeeding Ray Brady, on Saturday, October 3.

He is supported by Dick Gibbs, educational vice-president; Dick Gorom, administrative vice-president; Bill Schmidt, secretary; Paul Ford, treasurer; Ray Humphrys, sergeant-at-arms; Don More, publicity director.

The officers installation dinner was held at Club Alondra, Lawndale.

BBSF Classified Ads

Items advertised in "For Sale" and "For Sale or Trade" categories are limited to a maximum of $50. Price must be stated.

Ads for agencies, commercial enterprises and private businesses are not accepted.

Deadline is noon Monday, nine days before publication.

FOR SALE

HOUSEHOLD FURNISHINGS, end table, Duncan Phyfe legs, box-type, tooled leather book top, $25; step table, leather top, $20. FR 5-2315. A

TRAILER HITCH, Tour-Aid, load equalizing-type, $40. OR 7-3614. A

MAGAZINES, Popular Science, 10 volumes by Grolier Society, $40. DA 3-1993.

BED, bunk-type, w/spring & mattress, $30. FR 2-7386. A

CLOCK-RADIO, $10. FR 8-1894. A

CAMERA EQUIPMENT, slide projector, American Optical, 300-watt, 35-mm, w/case, $25. CI 4-9787. A

REFRIGERATOR, Frigidaire, 6' in good condition, $15. FA 8-6839. A

PICTURE FRAMES, 14"x18", natural wood, 3 for $5. GR 7-1539. A

BABY EQUIPMENT, crib w/deluxe Kantwet mattress, $25; teeterbabe, $3; training-chair, $3; stroller, $5; babybath, Pride, $5. FR 4-4589. A

HOUSEHOLD FURNISHINGS, TV swivel chair, red & black tweed; rug 9'x12', grey, shag-type w/pad, $30. FR 9-2135.

AUTO ACCESSORIES, car cooler, 12V, $15; engine, gas-type 1.5 hp, $20; hydraulic bumper jack, $3. OS 5-9085.

HOUSEHOLD FURNISHINGS, steel frame for Hollywood bed, convertible, $4; heater, Dearborn, 4-radiants w/10' hose, $30; table lamp, maple, planter-type, $5. PL 8-3382. A

BABY EQUIPMENT, playpen, $10; crib, $5; buggy, $10. AX 3-0578. A

MATTRESS, king-size, 6'x7' & innerspring, two-yr-old, cost $150; $45. AX 2-6365. A

BED, twin-size, Salem maple, $35.; football helmet, boy's, $3. OR 7-4996. A

HOUSEHOLD FURNISHINGS, desk, kneehole-type, chair, needlepoint-type, $25; shelf, 24"x32", $8. FR 2-7270. A

DINING SET, chrome, 2 chairs, $10. FA 8-0482. A

TYPEWRITER, Royal, portable - type, $22.50. NO 1-9324. A

BIRD CAGE, 6' high, modern-type, $10. GL 4-7770. A

DESK, 3-drawer, Governor Winthrop, black, $18. OR 2-7813. A

STOVE, table top, $30. OR 7-3786. A

STOVE, O'Keefe & Merritt, white, 4-burner & grill, table top w/oven, broiler, warming oven, in excellent condition, $45. PL 6-1021. A

TROMBONE, Elkhardt, w/case, cost $79; $50. LO 9-1804. A

RANGE, Western Holly, gas, full-size, top griddle, clock, control oven, $45. PL 6-0684. A

HOUSEHOLD FURNISHINGS, gas range, $15; dining table w/4 chairs, $15. DA 9-7338. A

REFRIGERATOR, Servel, perfect condition, $45. OS 6-5170. A

HOUSEHOLD FURNISHINGS, stove, O'Keefe & Merritt; refrigerator, Servel, $50. FR 2-9288. A

WANTED TO BUY

WINDWINGS for 1952 MGTD. GA 7-4370. B

RIBBING ATTACHMENT for Strick-Matador knitting machine. FA 8-3990. B

DRAFTING TABLE, miniature size, 24"x30". FR 2-6122. B

HARDTOP, black or white for 1955 T-Bird. OR 1-0298. B

GOLF CLUBS, irons & woods, $30. ME 0-4368. B

MOTOR, outboard-type, 3-hp. FR 5-8778.

CAMERA, movie-type, 16mm & projector. OR 1-7019. B

FOR TRADE

MATTRESS, full-size, w/box spring will trade for ½-size. OS 6-3680. C

FOR SALE OR TRADE

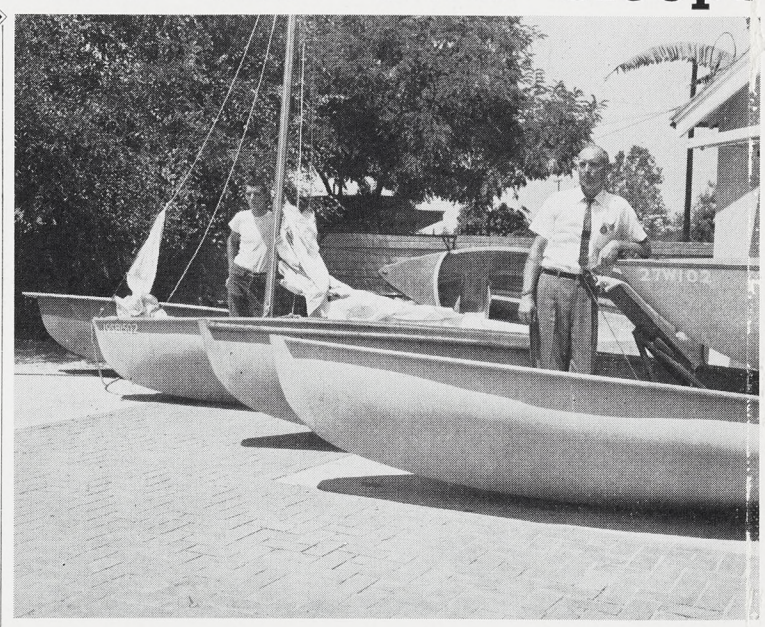
RANGE, Thermador, electric, deluxe-size w/clock & oven control, $50; or trade for gas range. FR 4-7761. M

RIDES WANTED

7 a.m. — 3:45 p.m.

CENTRAL AVE. & HWY. 39, La Habra. T. S. Maxwell, ext. 2649, OW 7-3150. 2

NRC Sea Scouts Build and Sail Own Sloops



NRC SEA SCOUTS AHOY — Committeeman Norcrafter George Larsen and son, Dan, 15, show the results of boat building project. Scout members have completed four 13-foot sloops, five more are on the way. All Norcrafter boys are invited to "join up" and build their own boat.

Sailing ships and sealing wax ——!

Only in this case it's Fiberglas —wonder material folks use for just about everything—that is being used by the Sea Scouts for their boat building project.

NRC Ship #262, Sea Gull, is busy building 13-foot sloops these days. The boys, under the guidance of new skipper Dave Birt, former crewman, Sid Cohan, commissioner, and George Larsen, committeeman, have seen four boats completed. Five more are nearing completion.

The work is done at George's house—727 West 138th Street in Hawthorne — after work and weekends. Boats are all of the same design, 13-feet long with a 5-foot beam. They can be hauled on the car top. Weight complete is 200-pounds.

They are centerboard style and are the nucleus of a class to be called "Romeo".

Sailing is usually done at Carrillo where the Sea Scouts have their base.

"The boys really learn about plastics," states George. "Some have jobs in industry as a result of know-how gained on the 'Romeo' project".

First boat to be finished was a joint project between George and his son, Dan.

Dan recently took a two-week Sea Scout cruise to Acapulco with the Naval Reserve.

All Norcrafter sons are invited to come on over to the regular Sea Scout meeting at the Clubhouse—Tuesday nights at 7—and get started.

"We stress seamanship, good sportsmanship, ship chandlery and sea safety," says George. "A boy can't lose. It's a satisfying thing to build a nice boat. And sailing the boat you built yourself is absolutely the 'most' ".

NRC Gem and Mineralers On Last Chance Campout

Last chance for Last Chance Canyon!

Gem and Mineral folk, Ray Cole and Doyle Shook, commissioners, days and nights, will prospect Last Chance Canyon, October 16 and 17.

Last Chance is real desert and there will be a dry camp. All G and Mers are advised to bring their own wood and water.

Last Chance geology is quite varied but the emphasis will be on fire opal, petrified wood and the jasper-agate quartz series.

The Last Chance Canyon is on the way to that monumental hole through the mountain, lifetime labor of Jackass Schwartz. Ripley called him the "Human Mole".

There is also gold in them there hills and the way is north of Mojave to Hart's Place then right. The Randsburg way in is a poor road, only fit for four-wheel drive.

Trip maps and timetables available at Personnel Activities.

FREE (to be given away)

NORCRAFTERS and their teeners— Education in basic electronic theory (See Radio Club in Good Time Table)

FOR TRADE

ELECTRONIC EDUCATION, enough to pass the radio amateur licensee exam. in exchange for a little of your spare time. Visit the Northrop Recreation Club, Wednesday evening, 7:30 to 9 p.m. Norcrafters and their children welcome.

ASSOCIATED TO HOLD ANNUAL "RELAXNIC"

Associated Projects will hold their second annual "Relax-nic" at Anaheim City Park, it has been announced.

Chairman Dorothy Brant extends cordial invitation to all Norcrafters to attend and explains the details.

It will be a potluck dinner affair.

The time of the festivities is from 11 a.m. to 4 p.m.

Date is next Sunday, October 11.

There will be games and NRC prizes.

A charge of $1 a family will help defray incidental expenses.

For complete information call Personnel Activities.

TICKETS FOR SC AND UCLA

There are a limited number of home tickets for USC and UCLA football games at Personnel Activities.

Call Blanche Cook, station 2784.

RIDES WANTED

7:30 a.m. — 4:15 p.m.

EUCLID & BALL, Anaheim. J. K. Aubry, ext. 2369. 2

LA BREA & STOCKER, Los Angeles. Irving H. Zovod, ext. 2370, AX 5-1741. 2

COLORADO & FIGUEROA, Eagle Rock. Mary Sauer, ext. 1508, CL 5-7758. 2

7:30 a.m. — 4:15 p.m.

AMAPOLA & DOMINGUEZ, Torrance. Delores E. Scott, ext. 2761. 3

LAKEWOOD & ARTESIA, Bellflower. Helen D. Miller, ext. 2761. 3

ATLANTIC & IMPERIAL, South Gate. Carol Gold, ext. 2436, LO 9-1115. 3

CRENSHAW & 182nd, Torrance. Myron Leister, ext. 403, DA 3-3344. 3

8 a.m. — 4:45 p.m.

MANHATTAN BEACH & PACIFIC, Manhattan Beach. Herb Ward, ext. 1663, FR 4-3890. 5

CONDON & 147th, Lawndale. P. Maggard, ext. 1630, OS 6-3090. 5

INGLEWOOD AVE. & 177th, Redondo Beach. T. R. Block, ext. 641, FR 9-0880. 5

PRAIRIE & 120th, Hawthorne. Anna Mae Vargo, ext. 2371, OS 9-2355. 5

ROWELL & 1st, Manhattan Beach. Ed Jucevic, ext. 531. 5

3:45 p.m. — 12:15 a.m.

CALLE MAYOR & PACIFIC COAST HWY, Torrance. Janis Hanson, ext. 2181, FR 5-6792. 10

RIDES OFFERED

7 a.m. — 3:45 p.m.

EUCLID & BALL, Anaheim. J. K. Aubry, ext. 2369. 12

HAWTHORNE & SEPULVEDA, Torrance. William L. Harvey, ext. 2370. 12

7:30 a.m. — 4:15 p.m.

ORANGETHORPE & SPADRA ROAD, Fullerton. W. R. Keen, ext. 1905, LA 5-2254. 13

8 a.m. — 4:45 p.m.

MANHATTAN BEACH & PACIFIC, Manhattan Beach. Herb Ward, ext. 1663, FR 4-3890. 15

ROWELL & 1st, Manhattan Beach. Ed Jucevic, ext. 531. 15

EL SEGUNDO FOLK STAGE ANNUAL FALL DANCE

The headlines at El Segundo these days speak louder than words.

The Annual Fall Dance for that facility is scheduled for Saturday night, October 17.

The place will be the Thunderbird Hotel ballroom. Keith Williams' Orchestra — "the band of the times"—will furnish the music.

Patti Manners with her interpretation of popular hit tunes will be featured.

Tickets are $2.25 per person and may be obtained at Personnel Activities offices.

Cordial invitation is extended Corporation-wide to Norcrafters and friends to attend.

OCTOBER 18 NEXT NRC RIDING MEET

Tex Statley, NRC Riding Club commissioner, announces that Sunday, October 18, the Club rides from the Good Luck Stables, 219th and Figueroa Street.

The time is 10 a.m.

Charge is $1.50 an hour.

Following the ride, a special meeting will be held at Bill Robusch's Tack Room, 195th and Main Street. Time of this meeting is 2 p.m.

Norcrafters who would like to become active members in the Riding Club are cordially invited to attend.

THE BIG FISH—Norcrafter Ray Colgan, right, went fishing and came back with NRC fish-of-the-year, 180-pound marlin, out of San Diego. Ray battled the needle-nose torpedo for 1 hour 45 minutes. Tackle No. 30 mono was used. Captain Burke of Ray's boat, the Kingfisher, at left.

SKI CLUB FOLK TO MEET, PLAN FOR THE SEASON

With the north wind about to blow—the NRC Ski Club will have its first meeting of the season, Wednesday, October 7, at the NRC Clubhouse, it has been announced by Ronn Wiggins, NRC vice-president.

The time of the meeting is 7:30 p.m. and plans will be formulated for the coming season.

Experts and oldtimers prophesy lots of snow this year.

All Norcrafters who intend to participate in the slalom, hanz spraingh, der pantztorn, izedschnozz sport are urged to attend this meeting to help start the season.

BUY U.S. BONDS